INVESTIGATION OF MILITARY PUBLIC WORKS

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES

EIGHTY-SECOND CONGRESS

SECOND SESSION

SUBCOMMITTEE ON MILITARY PUBLIC WORKS

JOHN J. RILEY, South Carolina, *Chairman*

FOSTER FURCOLO, Massachusetts GLENN R. DAVIS, Wisconsin

JOHN J. DONNELLY, Jr., *Counsel to Subcommittee*

PART 1

DEPARTMENT OF THE NAVY

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INVESTIGATION OF MILITARY PUBLIC WORKS

MONDAY, FEBRUARY 18, 1952.

DEPARTMENT OF THE NAVY

WITNESSES

REAR ADM. JOSEPH F. JELLEY, CEC, USN, CHIEF, BUREAU OF YARDS AND DOCKS
CAPT. D. B. VENTRES, CEC, USNR, ASSISTANT INSPECTOR GENERAL, BUREAU OF YARDS AND DOCKS
COMMANDER J. A. STELGER, CEC, USN, DIRECTOR, ENGINEERING AND TECHNICAL SERVICES DIVISION
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CARLOS R. BOSS, BUDGET ANALYST, ASSISTANT COMPTROLLER, DIRECTOR OF BUDGET AND REPORTS

INTRODUCTORY STATEMENT OF THE CHAIRMAN

Mr. RILEY. The purposes of this subcommittee on military public works for the armed forces are to obtain information and to analyze the use of the appropriations that have heretofore been made, and to consider the justification of the appropriations which are to be asked in the near future.

We have had certain investigations made by trained investigators whose sole purpose has been to get the actual facts in the matter. They are unbiased, impartial, nonpolitical, and they are in nowise seeking headlines. We simply want to get the truth in regard to these programs so that we may criticize any maladministration if we find proof that there has been any, or that we can exonerate and defend the program if we find the charges which have been made are not justified.

I think that all of us recognize the fact that the American public is carrying a tremendous tax load at present. I have never seen the public as tax conscious as they are today, and that has focused attention on all spending by the Government. Naturally, in this time of emergency the greatest part of the budget is for the defense forces; so attention has been particularly focused on the spending of the

defense forces. Every item is being scrutinized and the public is seizing on every criticism that is being offered, whether or not that criticism is justified.

Dollars are scarce in keeping with the need for those dollars and we must find some way to operate within the foreseeable income of this country or else we are going to wreck the economy and none of us is going to have anything.

So this committee intends to go into this matter in a constructive manner to try to reach the facts in the case and to work out the necessary remedy.

Now, the average man in this country understands construction. He may not understand the procurement of an airplane or the electronic equipment that goes in it, but there are very few people who cannot get a saw and a hammer and build a house of some kind and who feel they have some knowledge of the cost of a building. So in the construction program we are going to have to be very careful to fully justify every expenditure.

Now, the committee has secured the services of John J. Donnelly, Jr., who as counsel will conduct the hearings to a large extent for the benefit of the committee. He has gone very carefully and extensively into the reports which have been furnished. He is familiar with them. And he will bring out the facts that the committee wishes. Of course, the committee from time to time will interpose questions of its own.

I am going to ask Mr. Donnelly now if he will not take over and present the information which he has. Of course, Admiral Jelley, you and your assistants will be able to offer explanations and to answer any criticism which he may offer.

Mr. DONNELLY. Thank you, Mr. Chairman.

At the outset I would like to state briefly the background of the investigation which the committee staff undertook at the direction of the committee in calendar year 1951. By way of an introductory statement, I wish to advise the committee as follows:

INTRODUCTORY STATEMENT OF COMMITTEE COUNSEL

With the outbreak of hostilities in Korea in late June of 1950, urgent need was thereby created for rapid expansion of our Armed Forces. The President recommended to Congress that immediate consideration be given to the need for appropriating funds for military and naval purposes. Congress gave expeditious consideration to the President's requests and appropriated money for these purposes in the General Appropriation Act of 1951, enacted September 6, 1950, the First Supplemental Appropriation Act, enacted September 27, 1950, the Second Supplemental Appropriation Act, enacted January 6, 1951, and the Fourth Supplemental Appropriation Act, enacted May 31, 1951. In appropriating the tremendous amounts of money embodied in these acts, Congress relied upon the statements of the Department of Defense and of the three armed services with respect to the pressing need for the funds requested.

Included in these appropriations were large sums of money for military construction by the Army, the Air Force, and the Navy. The need for speedy consideration of the appropriation requests was commented upon, particularly in House Report No. 3193, dated December

15, 1950, on the second supplemental appropriation bill, 1951. At pages 19 and 20, the House Appropriations Committee stated:

> In House Document 726 the President transmitted his recommendations for additional appropriations for the Department of Defense. Throughout this message there was repeated emphasis placed on the need for the utmost speed in making these funds available. This was based on the fact that recent developments have overtaken the estimates for funds and there are already indications of need for more funds.
>
> The committee has proceeded with expedition to consider the estimates. The funds requested total more than those of the basic Appropriation Act for 1951 which was under consideration in committee for approximately 6 weeks. The committee has considered the present request for funds in lengthy, all-day sessions for 10 days. It is urged that the House take expeditious action on its recommendations.

The House Appropriations Committee in the spring of 1951 determined that an investigation of the expenditure of funds for military construction by the three armed services should be made. The committee directed its investigative staff on April 9, 1951, to conduct the investigation for the purpose of ascertaining the manner in which the large sums of money were expended in military construction. The staff promptly commenced the study and has recently furnished the committee a report of its findings.

The members of the staff who participated in the investigation were competent professional engineers, trained accountants, and investigators. At the outset they visited the Washington offices of several of the constituent units of the Department of Defense, including the Corps of Engineers, which is the construction service for the Departments of the Army and Air Force, and the Bureau of Yards and Docks, which performs a similar function for the Department of the Navy. In furtherance of this study, the staff visited district offices of the Corps of Engineers at Seattle, Walla Walla, San Francisco, Los Angeles, Tulsa, Albuquerque, Chicago, Omaha, Mobile, New York City, Kansas City, Washington, D. C., and naval district headquarters at San Diego, Norfolk, Great Lakes, and Charleston, S. C., and the naval ammunition depot, Shumaker, Ark. These offices, as of July 31, 1951, were supervising the construction of military projects comprising approximately 65 percent of the total program within the continental limits of the United States.

The military construction projects under the jurisdiction of the above-named offices and the practices and policies followed in the execution of this work were analyzed through a review and study of the records, together with interviews and discussions with personnel charged with the responsibility for the administration of the program. During this study, staff members inspected construction in various stages of 73 military installations of the Departments of the Army, Air Force, and Navy located in the States of Washington, Oregon, California, Idaho, Colorado, Arizona, New Mexico, South Dakota, Mississippi, Nebraska, Iowa, Texas, Illinois, Arkansas, Tennessee, New York, Maryland, North Carolina, South Carolina, Virginia, and Florida.

In addition, numerous contractors located in 29 cities throughout the United States were contacted for their views and suggestions or means of effecting economies in this program.

In preparing for these hearings, the committee staff, at the direction of the chairman, called upon the Secretaries of the Army, the Navy,

and the Air Force and acquainted each of these officials with the nature and scope of the investigation and of the proposed hearings, at the same time requesting each Secretary to designate an officer as liaison with the committee staff. (In the case of the Navy it was Capt. D. B. Ventres who is present here this morning.) He is a very competent engineer officer of the Bureau of Yards and Docks. This was done and thereby each of the services have been fully advised as to the subject matter to be covered in these hearings.

In the course of the presentation of evidence to the committee, excerpts from documents will be exhibited for the purpose of incorporation in the record. In each case, the full document will be available for examination if that be desired.

The hearings commencing this morning relate to the military public works program of the Navy, as part I of the over-all hearings on military public works. Subsequent hearings will separately cover the Army and the Air Force.

Pertinent Excerpts From Hearings Held in September 1951

I think at this point, Mr. Chairman, it would be appropriate for the committee to refer briefly to the hearings held on military public works in September 1951. Each member has been supplied with a copy of the hearings and I would like to invite your attention to page 952. We find at page 952 under the subject heading, "Cost increases and austerity of program" a colloquy between Chairman Mahon of the Armed Forces Subcommittee of the Appropriations Committee and Secretary of the Navy Kimball. I wonder if the committee members would like to read that one paragraph to themselves in lieu of my reading it. It is from there to the next heading.

Now, Mr. Chairman, may that excerpt be incorporated in the record at this point?

Mr. Riley. Without objection the excerpt will be made a part of the record.

(The excerpt referred to is as follows:)

Excerpts from hearings of House Appropriations Subcommittee on Military Public Works Appropriations for 1952 held September 1951 p. 952

Cost increases and Austerity of Program

Mr. Mahon. Mr. Secretary, you and Admiral Thurber have pointed out very graphically the shocking and terrific increase in costs. It was pointed out that construction costs have doubled since 1941. They want up 25 percent during World War II, and there has been another 75-percent increase from the war's end until July 1950, and since the Korean war began the costs have gone up 13 percent more.

Under those circumstances we are paying very dearly for construction. It is regrettable we are being required to provide a lot of money for construction at this time when we are paying for it so dearly. Are you of the opinion that this is an austere program and that the funds are actually needed to make more effective our national-defense program? In other words, are these dollars fighting dollars, in your opinion?

Secretary Kimball. I assure you, Mr. Chairman, these requests have been screened very carefully. I did not like the picture when it was first presented, and I went into each individual item with them and we screened them down to the things which we considered were very urgently needed. In some places we may have pressed them too hard, and I am satisfied that what we are asking here is the very minimum needed for this year, and we have got to come back for more next year. This is only for this year.

Mr. MAHON. Are you sure that the proposal here presented represents the highest priority projects?

Secretary KIMBALL. I am sure they do, Mr. Chairman, and I am also sure that after you look over the presentation of the details you will agree with me.

Mr. DONNELLY. May I next invite the attention of the committee to page 947 of the same hearings? In the middle of the page, there appears "Criteria for military construction" a part of the statement of Rear Adm. H. R. Thurber, Assistant Chief of Naval Operations, Logistics. May the first paragraph and the paragraph of quotation that is there go in the record at this point?

Mr. RILEY. Without objection, it will be incorporated in the record.

(Excerpt from page 947 is as follows:)

[Excerpt from hearings on House Appropriations Subcommittee on military public works appropriation for 1952 held September 1951, p. 947]

CRITERIA FOR MILITARY CONSTRUCTION

Rear Adm. H. R. THURBER (Assistant Chief of Naval Operations, Logistics). * * * In preparing the detailed plans and specifications for the projects included in this bill, we are being guided by the criteria for military construction issued by the Department of Defense in December 1950. In this connection, I would like to quote from a letter to all commands and stations ashore that Admiral Sherman signed last January:

"I wish to emphasize the absolute necessity to conserve construction man-hours, materials, and transportation. To this end, it is directed that no frills, adornment, or decorative refinement, elaborate recreational facilities, or other nonessentials be permitted to enter any plans or construction. All efforts must be directed to produce in the shortest possible time strictly functional facilities with durability consistent with their mission."

Mr. DONNELLY. The third excerpt from these hearings to which I would like to invite the committee's attention appears at pages 956 and 957 of the hearings, a colloquy between Mr. Davis and Secretary of the Navy Kimball and other Navy witnesses.

Mr. RILEY. Without objection, those excerpts will be incorporated in the record at this point.

(The matter referred to is as follows:)

[Excerpt from hearings on House Appropriations Subcommittee on Military Public Works Appropriations for 1952 held September 1951, p. 956]

COMPARISON OF COST-INCREASE ESTIMATES

Mr. DAVIS. Mr. Secretary, am I correct in assuming that the 10-percent increment which has been added to the 1950 figure would compare to the 20-percent figure that the Air Force is using as the increment that they submitted for construction?

Secretary KIMBALL. I do not know what they submitted.

Mr. DAVIS. I understand they were using a figure of 20 percent over July 1950. Is your 10 percent comparable to what they have added?

Admiral JELLEY. Yes, sir.

Mr. DAVIS. You said here, or Admiral Thurber—I forget which—stated that the actual cost of construction had gone up about 13 percent.

Admiral THURBER. On the average; yes.

Mr. DAVIS. Does that mean you have defrilled sufficiently in your original plans so that you can get by on 10 percent, even though the actual increase has gone up 13 percent?

Admiral JELLEY. I do not think you can figure any closer than 10 percent. Some costs have gone up; others have gone down, so that we can use that as a fair average, and I think we will come out pretty well.

It is not based on defrill, Mr. Davis, but, as Mr. Kimball said, we have taken a 10-percent round figure, and we hoped at that time, last January, that the increase in costs would stabilize to such an extent that the 10 percent would be a more realistic figure than 13 percent.

Secretary KIMBALL. I think that figure is all right. In the last 60 days some construction costs have gone down, and some have gone up.

Admiral JELLEY. It was leveling off during the last 3 or 4 months, started to stabilize over the last 3 or 4 months' period.

Mr. DAVIS. I understood you to say that there is nothing in here for expansion of barracks. Have you any other plans in connection with mobilization than for your known manpower requirements during the coming fiscal year?

Secretary KIMBALL. This is for fiscal year 1952 requirements, and in some places we have not taken care of the full fiscal year.

PLANS FOR RAPID EXPANSION

Mr. DAVIS. What plan do you have for rapid expansion in case of mobilization?

Secretary KIMBALL. We have some places we can use. We have some places where we are only about 75 percent, and if we need to move up rapidly to 100 percent, if it gets to all-out mobilization, we can put people in those places. We have got some places where we can take care of some extra people in case we have to.

Mr. DAVIS. Off the record.

(Discussion off the record.)

Mr. DAVIS. Getting back on the record, I just want to say that I was quite impressed in what the Navy is asking without attempting to anticipate beyond the coming year where installations are going to be. That is not quite what we have seen in other instances.

Mr. MAHON. If I may make this observation, Mr. Davis: We have been talking about a moth-ball navy, and an atomic navy, and various kinds of navies, but now we are assured we are going to have a defrilled navy, so it looks like we are moving somewhere.

Mr. DAVIS. That is all I have, Mr. Chairman.

PRESIDENT'S DIRECTIVE ON NEED FOR CONSERVATION OF MATERIALS

Mr. DONNELLY. Now I am happy to advise the committee that the President of the United States under date of July 21, 1950, recognized the pressing need for conservation of critical materials in the construction program attendant upon the impact of Korea. And I have here for each member of the committee a copy of President Truman's letter to each cabinet officer with respect to economy in those operations.

Mr. RILEY. Without objection, it may be inserted in the record.

(The President's letter of July 21, 1950, referred to, is as follows:)

The President is sending the letter below to the heads of the following departments and agencies:

Department of Agriculture
Department of the Army
Department of Commerce
Department of the Interior
Department of Justice
Department of Labor
Post Office Department
Department of State
Department of the Treasury
Federal Security Agency
General Services Administration
Reconstruction Finance Corporation
Tennessee Valley Authority
Veterans' Administration

JULY 21, 1950.

MY DEAR MR. ————: In my message of July 19 to the Congress, I announced that I was directing the executive agencies "* * * to conduct a detailed review of Government programs, for the purpose of modifying them wherever practicable to lessen the demand upon services, commodities, raw materials, manpower, and facilities which are in competition with those needed for national defense. The Government, as well as the public, must exercise great

restraint in the use of those goods and services which are needed for our increased defense efforts."

In order to adjust the programs of the Federal Government, I am writing to you and the heads of the other agencies whose programs involve substantial use of materials and other resources needed for the defense effort. Please reexamine your programs, giving particular attention, to the extent applicable, to the following:

(1) All civil public works, both direct Federal programs and grant-in-aid programs, should be screened with the objective, as far as practical, of deferring, curtailing, or slowing down those projects which do not directly contribute to defense or to civilian requirements essential in the changed international situation set forth in my message.

(2) Consistent with the restrictive policy already in force for housing credit, other credit programs should be tightened. The only exceptions should be those which directly contribute to meeting our defense and international responsibilities.

(3) Procurement of supplies and equipment should be held to minimum amounts, especially purchases of motor vehicles, typewriters, and other equipment using critical materials. Inventories should be reduced to the lowest practical levels, and excess supplies and equipment should be made available immediately to the General Services Administration.

In addition, I shall expect that in the reexamination of the programs of your agency, you will give first priority to those activities which contribute directly to national defense, including requests of other agencies for assistance.

I am asking the Director of the Bureau of the Budget to work closely with you in this review and to report to me on the steps which you have taken in revising your program to meet these objectives.

Sincerely yours,

HARRY S. TRUMAN.

NAVY DIRECTIVE ON CONSERVATION OF MATERIALS AND ECONOMY

Mr. DONNELLY. The Department of the Navy as a matter of top level Cabinet policy followed the directive of the President as outlined in that letter and the Assistant Secretary of the Navy issued a directive to the Navy generally with respect to the need for conservation of materials and economy, and that in turn was implemented by the directive signed by Admiral Forrest Sherman, the Chief of Naval Operations, dated January 2, 1951:

1. Reference (a) promulgated the criteria for permanent, semipermanent, and temporary command construction and directed that these criteria be incorporated in plans for, and construction of all military installations and facilities.

2. I wish to emphasize the absolute necessity to conserve construction manhours, materials, and transportation. To this end, it is directed that no frills, adornment, or decorative refinement, elaborate recreational facilities or other nonessentials be permitted to enter any plans or construction. All efforts must be directed to produce in the shortest possible time strictly functional facilities with durability consistent with their mission. I have instructed the Inspector General to give special attention to these matters.

3. The Bureau of Yards and Docks has available plans for typical structures which conform to the established criteria. These plans shall be given maximum application.

Mr. FURCOLO. This last letter is the same as that page, 947, of the September 1951 hearings?

Mr. DONNELLY. That is correct.

Admiral JELLEY. We quoted from that letter.

Mr. DONNELLY. That is correct.

This hearing this morning is on the Navy public works program. I might say for completeness of the record that both the Air Force through General Vandenberg and the Army Corps of Engineers issued similar directives, which we will get to when we take up each of those services, relating to the need for austerity and economy in military construction.

Computations on Possible Savings in Barracks Construction Made by Engineers of Committee Staff

With that, by way of background, I would like at this time to invite the attention of the committee to a chart which was prepared by the engineers of the committee's staff on the basis of their on-the-site studies throughout the United States of barracks of the three services and of detailed engineering analysis of plans and specifications, both for barracks under construction and barracks to be constructed.

The chart which we have prepared and which I will now hand to each member of the committee, is entitled "Department of Defense, Data Obtained in November 1951 from Corps of Engineers and Bureau of Yards and Docks on Barracks Under Construction or Completed Since July 1, 1951, Having Areas in Excess of 120 Square Feet per Man." Accompanying the chart is an explanatory memorandum.

Mr. Riley. The chart and memorandum will be inserted in the record at this point.

(The chart and memorandum are as follows:)

Department of Defense—Data obtained in November 1951 from Corps of Engineers and Bureau of Yards and Docks on barracks under construction or completed since July 1, 1951, having areas in excess of 120 square feet per man [1]

Location	Number of square feet of space provided per man [2]	Area in excess of 120 square feet per man	Number of men	Excess square feet of space provided in project	Approximate cost per square foot	Excess cost to Government
Department of the Navy:						
Litchfield Park, Ariz	142	22	300	6,600	$14.20	$93,720
Dam Neck, Va	134	14	600	8,400	14.86	124,824
Memphis, Tenn	148	28	1,800	50,400	12.85	647,640
Point Mugu, Calif	136	16	600	9,600	14.80	142,080
Camp Pendleton, Calif	132	12	1,000	12,000	11.65	139,800
Miramar, Calif	146	26	1,000	26,000	12.80	332,800
White Sands, N. Mex	133	13	377	4,901	11.57	56,693
Total, Navy			5,677			1,537,557
Department of the Army:						
Fort Lee, Va	121.7	1.7	256	435	$11.42	$4,968
Rapid City, S. Dak	212.4	92.4	636	58,766	8.38	492,459
Sandia Base, N. Mex	125.2	5.2	1,568	8,154	9.33	76,077
Fort Campbell, Ky	221.2	101.2	160	16,192	8.03	130,022
Vint Hill Farms, Va	129.0	9.0	166	1,494	10.24	15,299
La Plata, Md	132.5	12.5	63	788	14.04	11,064
Woodbridge, Va	132.5	12.5	63	788	13.39	10,551
Total, Army			4,364			740,440

See footnotes at end of table, p. 9.

Department of Defense—Data obtained in November 1951 from Corps of Engineers and Bureau of Yards and Docks on barracks under construction or completed since July 1, 1951, having areas in excess of 120 square feet per man [1]—Continued

Location	Number of square feet of space provided per man [2]	Area in excess of 120 square feet per man	Number of men	Excess square feet of space provided in project	Approximate cost per square foot	Excess cost to Government
Department of the Air Force:						
Amarillo, Tex	149.2	29.2	9,282	271,034	$7.39	$2,002,941
Do	149.2	29.2	7,956	232,305	5.54	1,286,970
Pinecastle, Fla	133	13	1,232	16,016	5.21	83,443
Duluth, Minn	167.3	47.3	312	14,757	8.61	127,057
Big Spring Air Force Base	150.8	30.8	2,028	62,462	6.18	386,015
Do	150.8	30.8	234	7,207	6.63	47,782
McGhee-Tyson, Maryville, Tenn	130.9	10.9	264	2,877	7.37	21,203
Wichita, Kans	149.2	29.2	390	11,388	9.13	103,972
Youngstown, Ohio	132.4	12.4	261	3,236	9.12	29,512
Rapid City, S. Dak	167.3	47.3	1,326	62,719	7.99	501,124
Osceola, Mich	198.4	78.4	47	3,684	8.68	31,977
Lake Charles, La	149.2	29.2	780	22,776	7.18	163,531
Paine Air Force Base, Wash	134.8	14.8	234	3,463	7.18	24,864
Suffolk Air Force Base, N. Y	188.8	68.8	320	22,016	8.02	176,568
Niagara Falls, N. Y	133.5	13.5	261	3,523	12.88	45,376
Limestone Air Force Base, Maine	137.4	17.4	514	8,943	12.02	107,494
Do	211.3	91.3	644	58,797	14.21	835,505
Do	173.7	53.7	3,081	165,449	11.09	1,834,829
Wichita Air Force Base, Kans	149.2	29.2	780	22,776	9.61	218,877
Do	149.2	29.2	1,014	29,609	9.81	290,464
Offutt Air Force Base, Nebr	149.1	29.1	216	6,286	9.95	62,545
Travis Air Force Base, Calif	149.7	29.7	1,326	39,382	10.67	420,205
Fairchild Air Force Base, Wash	168.4	48.4	525	25,410	8.73	221,829
Great Falls Air Force Base, Mont	168.4	48.4	525	25,410	9.50	241,395
Larson Air Force Base, Moses Lake, Wash	168.4	48.4	1,800	87,120	8.62	750,974
Scott Air Force Base, Ill	135.2	15.2	2,550	38,760	11.98	464,344
O'Hare Air Force Base, Ill	135.2	15.2	1,190	18,088	10.41	188,296
Chanute Air Force Base, Ill	135.2	15.2	595	9,044	9.71	87,817
Andrews Air Force Base, Md	171.2	51.2	3,080	157,696	10.26	1,617,960
Westover Air Force Base, Mass	173.6	53.6	316	16,937	7.87	133,294
Keesler Air Force Base, Miss	149.6	29.6	854	25,278	11.96	302,324
Do	151.8	31.8	2,928	93,110	9.55	889,200
Do	151	31	3,172	98,332	9.55	939,070
Do	151.7	31.7	2,196	69,613	9.54	664,108
Do	148.8	28.8	1,037	29,865	11.60	346,434
Do	148.1	28.1	976	27,425	11.93	327,180
Do	152.6	32.6	2,013	65,623	9.60	629,980
Chanute Air Force Base, Ill	135.2	15.2	2,805	42,636	9.85	419,964
Pittsburgh Air Force Base, Pa	161.8	41.8	560	23,408	11.80	276,214
McGuire Air Force Base, N. J	161.8	41.8	560	23,408	11.38	266,383
Sheppard Air Force Base, Tex	149.2	29.2	3,042	88,826	6.98	620,005
Albuquerque, N. Mex	155	35	546	19,110	7.53	143,898
Gray Air Force Base, Tex	165.1	45.1	312	14,071	8.87	124,809
Carswell Air Force Base, Tex	162	42	390	16,380	7.10	116,298
Kelly Air Force Base, Tex	149.4	29.4	312	9,172	9.18	84,198
Griffiss Air Force Base, N. Y	188.8	68.8	400	27,520	10.20	280,704
Lackland Air Force Base, Tex	165.1	45.1	4,524	204,032	7.90	1,611,852
Do	165.1	45.1	936	42,213	8.85	373,585
Do	165.1	45.1	1,950	87,945	8.25	725,546
Do	132.7	12.7	3,492	44,348	6.80	301,566
Do	165.1	45.1	780	35,178	7.67	269,815
Do	165.1	45.1	1,326	59,802	7.90	472,435
Total, Air Force			78,194			22,693,731
Department of the Navy			5,677			1,537,557
Department of the Army			4,560			740,440
Department of the Air Force			78,194			22,693,731
Total			88,431			24,971,728

[1] Maximum area considered necessary by engineers of committee's investigative staff. Detailed explanation is set forth in a separate memorandum.

[2] Adjusted to omit kitchens, dining rooms, classrooms, and administrative space.

MEMORANDUM OF INVESTIGATIVE STAFF OF HOUSE APPROPRIATIONS COMMITTEE EXPLAINING ALLOCATION OF GROSS AREA OF 120 SQUARE FEET PER MAN IN BARRACKS

The investigative staff of the House Appropriations Committee has compiled, from data and figures supplied by the Corps of Engineers and the Bureau of Yards and Docks, a chart entitled: "Department of Defense—Data Obtained in November 1951 From Corps of Engineers and Bureau of Yards and Docks on Barracks Under Construction or Completed Since July 1, 1951, Having Areas in Excess of 120 Square Feet Per Man."[1] Footnote 1 of the chart reads as follows: "Maximum area considered necessary by engineers of Committee's Investigative Staff. Detailed explanation is set forth in a separate memorandum."

It is the purpose of this memorandum to explain the allocation of 120 square feet of gross area per man in barracks. This figure is based upon an exhaustive analysis of plans and specifications of the Corps of Engineers and Bureau of Yards and Docks for barracks, and on-the-site study made by engineers of the staff at many Army, Navy, and Air Force installations throughout the country. The barracks visited were both occupied and unoccupied. In addition, a complete statistical analysis was made of space utilization in barracks under construction. The engineers of the committee staff approached the problem with open minds and without any preconceived views on the gross area required per man.

It was found as the study progressed that a large amount of excess space was being constructed, and that there was a lack of uniformity throughout the construction of barracks, except that the sleeping space per man was usually held to around 72 square feet. Construction standards issued by the Munitions Board, applicable to all three branches of the service, have established 72 square feet per man as the official allowance for sleeping space. Generally this space allowance has been followed within satisfactory limits by all three services; however, the space provided for other purposes, such as lounges, laundry space, etc., has not been subject to uniform limitations. It is in these areas that the excessive space is found. Unfortunately, the Munitions Board did not establish limits for the gross space constructed in barracks.

No change is suggested in the Munitions Board's standard allowance of 72 square feet per man for sleeping space. The proposed ceiling of 120 square feet gross area per man would merely limit nonsleeping space. That such a limit is not unreasonable is shown by the barracks space allowances established by the Army and Air Force for their fiscal year 1952 construction programs. Both of these programs are based on approximately 120 square feet of gross area per man.

In arriving at the ceiling figure of 120 square feet of gross area per man, two things were kept in mind: The need for providing sufficient space for housing men with a reasonable degree of comfort, and the need for the utmost economy in the construction program.

Mr. DONNELLY. I would like to explain to the committee the significance of the data reflected on this chart. You will find in the lower right-hand column at the bottom, $24,971,728. It is the view of the committee staff that that money which was being spent in calendar year 1951 could have been saved and should have been saved by the armed services in constructing barracks, because that gross figure represents the cost of the excess per man over 120 square feet. That in turn is founded upon 72 square feet of sleeping space per man, a standard criteria set down by the Munitions Board for the three armed services and which governs the Navy, and an additional 48 square feet per man for community space, such as corridors, stairways, lavatories, day rooms, lounges, and the like.

I would like to advise the committee—and we have the documents here which I will hand to each member as we go along—that both the Army and the Air Force have, for the barracks they propose to build, brought themselves within the 120 square feet per man.

They have advised the committee to this effect in writing, and they have furnished us detailed figures to support their intention. On the other hand, the Bureau of Yards and Docks has not done so. The figures which they have furnished for their proposed construction considerably exceed the 120 square feet per man.

Now, in this chart also we find in the next to the last column the heading "Approximate cost per square foot." The Department of the Navy at the top, the committee will notice, spent more per square foot for the construction of these barracks than have the other two services, averaging it out generally; and I want to be fair with Admiral Jelley. These figures relate only to those barracks wherein the areas have been in excess of 120 square feet per man.

Mr. FURCOLO. Are the same dates comparable?

Mr. DONNELLY. Yes, sir, throughout; and if you look down in the Department of the Air Force, for example, you get figures such as $7.39 per square foot and $5.54, $5.21. You look back up in the Department of the Navy and you get figures that are approximately twice and maybe a little over that price per square foot.

The Navy's cost per square foot with respect to Memphis is shown as the third figure $12.85. On that particular barracks, the committee asked questions of the Bureau of Yards and Docks last September as to what was contemplated at Memphis. Congressman Davis asked several questions with respect to the type of construction. The barracks at Memphis were, as I understand, excavated in August of 1951, a month prior to that, and I might say also that the barracks at Memphis were constructed from funds appropriated in the Second Supplemental Appropriation Act of 1951. That is the one where the committee had only 10 days, instead of a much longer period, in which to consider the needs of the services.

TESTIMONY IN PRIOR HEARINGS ON BARRACKS CONSTRUCTION

The committee members will find pertinent colloquies on barracks in the hearings at pages 1051–1052, and 1055–1057. The colloquy on barracks spaces commencing at page 1051 is between Congressman Scrivner and several Navy officers, including Admiral Jelley.

Mr. RILEY. Without objection, these excerpts from the hearings will be incorporated in the record.

(The excerpts referred to are as follows:)

[Excerpts from hearings of House Appropriations Subcommittee on Military Public Works Appropriations for 1952 (held in September 1951), p. 1051]

NAVAL AUXILIARY AIR STATION, MIRAMAR, CALIF.

BARRACKS SPACES

Mr. SCRIVNER. What space are you anticipating assigning to the barracks, 60 or 72 feet?

Commander GIESEN. Lt. Comdr. Francis E. Giesen, public works officer, Naval Auxiliary Air Station, Miramir Calif. The spaces allotted are 72 square feet basis.

Mr. SCRIVNER. If the Army and the Air Force can get along on 60 square feet I see no reason why the Navy cannot do it out there.

ADMIRAL. Jelley. According to the criteria——

Mr. SCRIVNER. I know that is not according to the criteria given by the Medical Department as the ideal, but it is just impossible to have the ideal situation, and the Air Force and the Army have told us that, in view of the strain we are putting on the taxpayers, they are going to squeeze in more people in the space they have

and make it possible with the same number of buildings to accommodate more men, by cutting it down to 60. If the Army and Air Force can make that sacrifice and be short of the ideal criteria set down by the Medical Department—and I think it is 70 rather than 72—I do not see any reason why the Navy cannot do the same thing.

Captain COFFIN. We have housed more than that in the temporary space.

Mr. SCRIVNER. But we might as well face it, we are in an emergency. We are down to the bottom of the barrel. Dollars are getting harder to get every day.

Mr. DAVIS. There is one point I would like to clear up with respect to the barracks: Were you speaking of tearing down the frame buildings and rebuilding them?

Captain COFFIN. Yes, sir; that is the long-range plan.

Mr. DAVIS. And am I correct, according to the justification here, in assuming that the frames would be the first you would have to move and relocate before you rebuild what you contemplate at that place?

Captain COFFIN. They would, based upon whether or not the original plan for space is carried out.

Mr. SIKES. In other words, you have a plan to relocate the base, but you are not bound to do it at this time. Is that the situation?

Admiral COMBS. Yes, sir; that is correct.

Mr. DAVIS. I did not get the answer.

Mr. SIKES. Admiral Combs said that is correct.

Mr. DAVIS. The price of the BOQ is 7,000 as compared with some of them?

[Excerpt from hearings of House appropriations subcommittee on military public works appropriations for 1952, p. 1055]

COMPARATIVE COSTS, BOQ AND BARRACKS, ARMY, AIR FORCE, AND NAVY

Mr. SHEPPARD. I was given to understand this morning that there was some information which you were to supply relative to interrogations that were made yesterday.

Admiral THURBER. Yes, sir; there were four items. One has to do with respect to the possible difference in the cost of barracks and BOQ's estimated by the Navy as compared with the Army and Air Force.

Admiral Jelley will supply the information.

Admiral JELLEY. I checked with the people in the Secretary of Defense office, who looked into the Army and Air Force programs and they informed me that both the Army and the Air Force are using the same cost figure, $6,000 per man, for permanent bachelor officers' quarters, as the Navy. However, the Army and the Air Force have in some instances included emergency and temporary bachelor officers' quarters at a cheaper price. Undoubtedly that is the explanation for different costs being noted.

Mr. TABER. No; that was not it. You had it up to $7,000.

Admiral JELLEY. In the $7,000 estimate $6,000 was for the house, and $1,000 for the mess. In some places messing facilities were already provided and would not be included. In the last project that was up before we adjourned yesterday we had to provide mess facilities which made the extra $1,000. But the $6,000 is the bachelor officers' quarters without mess facilities.

In addition to that, the question of the number of square feet per man in barracks was raised. We have followed the standard Department of Defense figure of 72 square feet per man. And I was informed that the same condition applies to the Army and Air Force and that they were using 72 square feet in permanent quarters. However, they had some emergency barracks, and temporary barracks which were based on 60 square feet per man. We have no temporary barracks in this particular request, and therefore we have not used the 60 square feet.

Mr. SHEPPARD. Insofar as permanent construction is concerned, in that category of items, the figures are identical, with the reservation that where you provide mess you have to go to a larger figure.

Admiral JELLEY. Yes. We are exactly the same.

Mr. SCRIVNER. Not only that, but in their permanent barracks they are still following the practice during this emergency of cutting down on the amount of space allotted to each man, which is as it should be.

In addition to that information, in the BOQ space, while they have so much per man, they are putting two men in each one of these bachelor officers' quarters.

Admiral THURBER. The Navy puts in two.

Admiral JELLEY. We designed them on the basis of two men to the room for emergency conditions.

Mr. SCRIVNER. And that is what is being used?

Admiral JELLEY. Yes; that is the standard allowance, two men per room.

Mr. SCRIVNER. Is that the larger quarters than the one designed for the Air Force and the Army?

Admiral JELLEY. Not for permanent barracks.

Mr. SCRIVNER. It is large enough for two, or permit the ideal situation; what is the reason why it cannot be used by three during this emergency when dollars are so short? If you have read the papers, and I am sure you have, you read yesterday that the Federal spending will be somewhere between $6 and $7 billion, and possibly $10 billion more than the income, which means that all of this construction is going to be done on borrowed money, which means the sale of bonds which automatically adds 25 percent to the total cost, because when the bonds are sold each $75 worth of bonds to raise cash for these buildings will cost the taxpayers $100 to pay them off. We have reached the point where there are a lot of things that we would like to have but we cannot afford them; we have got to do with less until the pressure is off when there is more money available to spend.

Admiral JELLEY. As a matter of fact, as to actual practice, the requirements are computed on the planning basis—the number of men we expect to assign to a station and the number of men that will be there in 1952——

Mr. SCRIVNER. Plus the ideal space allowance, something we would all like to have if it were possible, but which we cannot afford.

Admiral JELLEY. But in practice these barracks have squeezed into them every man they can get in. I do not know of a Navy base that does not follow such a procedure, and while there is a space allowance provided, say, for 100 men, there will be 120 or 125 men assigned to that space.

Mr. SCRIVNER. That is what we are going to have to do for awhile.

Mr. DONNELLY. Now we have a background from the hearings on barracks. The record references which I have given the committee are not exhaustive, but I think they are typical and I think they give a fair background.

NAVY TESTIMONY IN 1950 ON CONSTRUCTION PROGRAM

I would like to ask Admiral Jelley several prefatory questions.

Admiral, in the testimony in the first supplemental hearings for 1951 the Navy testimony commenced at page 384, and the date of the testimony was August 7, 1950, which was about 6 weeks after Korea started. I have the complete book here if you want to refer to it.

Admiral JELLEY. That is not one you put in the record?

Mr. DONNELLY. No, sir. I would like to make some general statements from that hearing.

I note that the money requested at that time, August 7, 1950, was for acceleration of the Navy's construction program. That is right, is it not, or would you want to refer to the hearings?

Admiral JELLEY. Well, it depends on what you mean by acceleration. As I recall, it meant that we were adding additional projects to the program rather than spending extra money on previously authorized projects to accelerate the progress. It was not a question of, say, going into overtime or taking other steps to accelerate the individual project. The program as a whole was coming to Congress faster than it had originally been intended.

Mr. DONNELLY. Exactly. So that we are completely fair on that, let me read, if I may, Admiral Jelley's statements starting at page 394.

(The statement referred to is as follows:)

Mr. Chairman and gentlemen of the committee, the Secretary of Defense, the Secretary of the Navy, and the Chief of Naval Operations, in their testimony before your committee, mentioned that the estimates for new public-works construction would be submitted a little later. The estimates for the Navy's con-

struction requirements have been completed and submitted to the Secretary of Defense and the Bureau of the Budget and approved by them.

Only projects that have previously received legislative authorization and a few major repair or rehabilitation projects are included in the program. In general the projects in this program were originally scheduled to be deferred until fiscal 1952 because funds were not available for inclusion in earlier budgets. However, the changed world conditions make it imperative to accelerate these projects. You will recall that I mentioned at the hearings last week that the 1951 program totaling $62,000,000 was only 20 percent of the amount of available authorization. This additional program totaling $85,978,000 will take another 30 percent of the amount now authorized.

We have an additional program totaling $85,000,000 which requires legislative authorization. This program has been submitted to the Secretary of Defense and we hope that we will be able to present it to the Armed Services Committee before long. The need for these projects stems directly from the Korean campaign and increased Navy activity.

The projects for which we now request appropriations will result in speeding up the presently authorized work on Guam, Kwajalein, and the classified projects. It will push the program of extending runways and fuel storage for jet planes. It will accelerate radio-communication projects for the Pacific Ocean area as well as the one for the headquarters of commander in chief, Atlantic Fleet. It will speed up the work on facilities at Point Mugu and Inyokern required for the development and perfecting of guided missiles and rockets.

I want to bring out that the program of public-works projects which has been approved by the Secretary of Defense and the Bureau of the Budget includes only projects that have previously received legislative authorization, plus a few major repair and rehabilitation items that do not require legislative authorization.

In general, the projects in this program were originally scheduled to be deferred until the fiscal year 1952 budget. However, the changed world conditions make it imperative to accelerate these projects.

* * * * * * *

I have detailed justifications for each of these projects, and the projects are arranged in priority. The program totals $85,978,000, of which $48,398,400 is in the continental United States and $37,579,600 is outside the continental United States.

That, added to the program which we presented in the regular bill some weeks ago, of $62,000,000, will give a total public-works construction under fiscal 1951 of $148,906,000.

Mr. DONNELLY. I believe that is sufficient for the present. If you should desire, on examining these hearings to put more in than I read, you have every right to do that, I am sure. Mr. Chairman, if the Admiral desires to supplement the record, may he do so?

Mr. RILEY. You can supplement or amplify with any statements that you have, Admiral.

Mr. DONNELLY. In passing to page 396 of those hearings, we find a further statement of Admiral Jelley. In response to this question of Mr. Mahon, the Chairman.

Do you have in this supplemental requests for projects that are also included in the regular omnibus bill now concluded by the Senate?

Admiral JELLEY. Yes, sir; there are quite a few. I would say there are at least half of those projects for which we are now asking additional funds in that category. A good many of those projects have been scheduled for completion over a 3- or 4-year period. In the Senate bill we had asked for a minimum amount of funds for the first year's work. In the supplemental we are asking for additional funds in order to telescope that 3 or 4 years into 18 months or 2 or 3 years.

Then we find on page 398 a further statement of Admiral Jelley with respect to the contract-letting procedure for construction work.

Admiral JELLEY. We have already started to analyze our situation and make up time schedules. We have already started to select engineers.

For instance, on this classified project we selected the engineers last week. We are proceeding now to select engineers for this Dam Neck project. Of course, we cannot make a contract with them until the appropriation bill is passed, but by

starting now and making a tentative agreement—it is not a commitment—"When we get the money you are going to get the job"—he can start lining up engineers and looking the job over. As soon as we have the money we can go right to work.

It will be a matter of anywhere from 2 to 4 months after he starts drawing plans and writing specifications before we have working drawings so that we can advertise for bids.

I would say in general on this whole continental program, the part that was added in the Senate and this part, that we will be asking for bids between the first of October and the first of February or March. Work will be getting underway in the winter and spring.

Now, on page 399, the question of the relationship of these projects to Korea was asked, and we have here Admiral Jelley's response:

It was work originally scheduled for fiscal 1952. So other than the work that is overseas none of it was initiated as a result of the Korean situation. * * *

That is pertinent because the investigation that the staff has conducted has been entirely within the United States; nothing overseas.

Now, Admiral, we have learned that the Air Force did not have the benefit of the advance planning program that the Navy had and was forced to improvise in planning, for example. The point that I wanted to develop, if I might, is that the Navy merely accelerated its long-range construction program; is that correct?

Admiral JELLEY. That is correct, in general. Of course, there would be some unforeseen projects that would not have been in the long-range program that would have to be added. But in the main, Mr. Patterson, would you say 90 percent of the projects, between 80 and 90 percent of the projects, had been in the long-range program?

Mr. PATTERSON. Yes, sir.

Admiral JELLEY. Something on that order. I would also like to amplify my remarks about "as a result of Korea." The program as a whole was accelerated as a result of Korea. What I meant was that none of the individual projects directly contributed to the Korean situation. Of course, the change in world situation, as a result of Korea, accelerated the whole program. But none of these projects directly affected the operations in Korea which was what I meant by "it had not been a result of Korea."

Mr. DONNELLY. I see, sir.

MEMPHIS BARRACKS (WHICH ARE NOW UNDER CONSTRUCTION)

Now, with that by way of background, I would like to invite the committee's attention to a specific construction operation, that is, the barracks under construction by the Navy for the Memphis Air Technical Training Center, and I would like to invite the committee's attention to the hearings of September 1951, at pages 1042, 1043, 1044, 1045, and 1059.

Mr. RILEY. Without objection, these pages from the hearings of last year will be incorporated in the record at this point.

(The pages referred to are as follows:)

[Excerpt from hearings of House Appropriations Subcommittee on Military Public Works Appropriations for 1952, held September 1951, p. 1042]

NAVAL AIR TECHNICAL TRAINING CENTER, MEMPHIS, TENN.

Mr. SIKES. Will you take up the next item?

Admiral THURBER. Naval Air Technical Training Center, Memphis, Tenn., with a total request of $7,065,000.

Mr. SIKES. What is the mission of this field?

Admiral THURBER. The mission is to provide facilities to support the Naval Air Technical Training Center and the Naval and Marine Air Reserve training program.

Mr. SIKES. Has it been in continuous operation?

Admiral THURBER. Yes. This is the second increment. It was put in operation during World War II, the early part of the war.

The Naval Aviation Technical Training Center, Memphis, is a major center for the technical training of officers and men in the naval aeronautical organization. The headquarters of the Technical Training Command is located on this center. Funds already appropriated are being used to finance the first increment of the construction authorized under Public Law 910, Eighty-first Congress, including acquisition of land, extension and strengthening of one runway, and the associated taxiways, barracks, mess halls, and training buildings.

The funds requested herein are for use in continuing the program, providing a hangar, additional barracks buildings and supporting mess halls, and training buildings to house the aviation structural mechanic schools.

The Naval Aviation Technical Training Center, Memphis, is the only permanent peacetime naval aviation technical training center. The principal schools of the center are the P and A schools. The P school provides fundamental aviation indoctrination for enlisted personnel and the A school provides training for enlisted men to help qualify them for third class petty officer aviation ratings. The present limited capacity of facilities available for aviation technical training will result in the sending of an estimated 40,000 enlisted men into fleet aviation without the benefit of these A and P schools unless additional facilities are provided.

1. Barracks and messing facilities: There is an urgent requirement for barracks and messing facilities for a total of 5,000 enlisted men. Funds obtained under Public Law 911, Eighty-first Congress, enabled the construction of facilities for 1,000 men, and Public Law 910, Eighty-first Congress, authorized the construction of facilities for an additional 800 men. This project is for the third increment of this program. It will provide facilities for berthing and messing 3,200 men. There will be two groups of 13 permanent-type structures, 12 barracks and 1 mess hall and galley in each group. This will provide permanent housing for about one-half of the station complement. No existing temporary-type barracks will be replaced, as they will all be needed to support the planned student load.

Bachelor officers' quarters: Bachelor officers' quarters space, in addition to that now available in the present temporary-type bachelor officers' quarters, is needed to provide sufficient housing for that portion of the officers assigned to the station, or who are instructors or students, and are unmarried. The present bachelor officers' quarters will not be replaced, as its capacity will be needed to care for all of the officers requiring quarters. The bachelor officers' quarters to be constructed under this project will provide space for 62 officers.

Supply storage: All storage space at Naval Aviation Technical Training Center, Memphis, is occupied, and in addition, huts and hangars are utilized for some supply department spaces. Some materials which should be in storehouses under cover are stored in open areas exposed to the weather. Proper protection cannot be provided to valuable materials with existing facilities. The proposed additional supply department space is considered the minimum necessary to provide additional storehouse space.

Utilities and services: The purpose of this project is twofold. It is contemplated, first, to replace the deteriorated World War II steam-distribution system to reduce excessive fuel costs, heat losses, and maintenance costs. The steam-distribution system on the south side of the station is in very poor condition. The mains are run underground in Ric-Wil conduit installed during the war in muddy trenches and with inferior joint connections. This has resulted in numerous leaks and deterioration of the lines. The replacement of portions of the system with new steam lines will result in a substantial reduction of heat losses and will greatly reduce maintenance costs. Evidence as to the inefficiency of the existing steam distribution is shown by the fact that during the periods of wet winter weather steam consumption is approximately one-third more than during dry periods, other factors being equal. Replacement of dangerous and defective portions of electrical and water-distribution systems is also contemplated. The second portion of this project is for the extension of existing facilities including water, electrical, steam, sewage systems and necessary roads and walks to service the construction planned in the current program.

Public works facilities: The existing public works facilities are inadequate in size and configuration. It is proposed to construct a new building to provide additional shop and office space.

This project provides for the construction of barracks, bachelor officers' quarters, supply storage space, and public works facilities at the Naval Air Technical Training Center, Memphis, Tenn.

On page C2–38–4, barracks and mess facilities, permanent, 3,200 men; bachelor officers' quarters, permanent, 62 officers, for which we are not requesting any appropriation in 1952.

Mr. TABER. But you are requesting an item here for 800.

Admiral THURBER. That is correct; that is the second increment. We started on C2–38–1.

COST OF BARRACKS

Mr. SCRIVNER. At $2,500 per space?

Admiral JELLEY. That cost includes mess facilities.

Mr. SCRIVNER. That is a permanent construction job?

Admiral JELLEY. Yes, sir.

Mr. SCRIVNER. Built with what?

Admiral JELLEY. Brick, sir.

Mr. SCRIVNER. Do you ever build with concrete blocks?

Admiral JELLEY. We do sometimes, yes, sir.

Mr. SCRIVNER. Why brick construction; that is just about the most expensive you can find, with the labor item in it.

Commander DAVIS. I am Commander Lewis M. Davis, public works officer, Naval Air Station, Memphis. I have been at Memphis for some 2 months, but the matter was gone into and brick was selected because brick was a local product, and there was a definite shortage of cement in the area. They had a study made and found that brick was the only thing that would be practical.

Mr. SCRIVNER. Did they go into the cost of labor?

Commander DAVIS. That was gone into, yes, sir, and the alternative indicated that brick was just as economical as concrete.

Admiral JELLEY. We have had recent contracts, and the cost runs about $2,500.

Commander DAVIS. They have found that they can use local brick.

Admiral JELLEY. And the cost is comparable with concrete.

Mr. SCRIVNER. Well, I would want to see some concrete figures on that. Frankly, I would like to see a comparison on that, the labor cost particularly, because that does not stand up with the experience at several places we have had called to our attention.

Admiral JELLEY. We will furnish that to you, sir.

Mr. TABER. I would like to have you submit to the committee the items that have been let by contract since the first of July 1950, and the appropriation and the amount of the contract, and enough of a description of the property so we could tell whether it was barracks and how many spaces, and a few things like that.

Admiral JELLEY. For all contracts, or just the contracts for barracks?

Mr. TABER. All contracts.

Admiral JELLEY. Very well, sir.

(The information requested was provided the committee.)

Excerpt from hearings of House Appropriations Subcommittee on Military Public Works Appropriations for 1952, p. 1059]

MEMPHIS AIR TRAINING CENTER—BRICK CONSTRUCTION

Mr. SCRIVNER. There are one or two other items in which we made inquiry yesterday; one had to do with certain construction at Memphis, of brick.

Admiral JELLEY. We are not quite ready to supply that information. We have been in touch with the people at Memphis, and they have advised us they are investigating the matter and will supply us with information through air mail as soon as possible.

(The following information was supplied later:)

At Memphis, Tenn., the estimated cost of the various types of construction is as follows:

	Per square foot
Frame construction (semipermanent)	$10.60
Concrete blocks, 12-inch	12.75
Concrete blocks, 12-inch, painted	12.85
Concrete blocks, stuccoed	13.00
Reinforced concrete walls, 6-inch	13.90

The construction actually used was 8-inch concrete blocks faced with brick, and the low bidder on the contract bid $13.30 per square foot.

COST PER SQUARE FOOT OF MEMPHIS BARRACKS

Mr. DONNELLY. Page 1059 was the last page. That was the information supplied in response to a request of Congressman Scrivner with respect to the type of construction at Memphis. And you note in the last line that the construction material actually used was 8-inch concrete block faced with brick, and the low bidder on the contract bid $13.30 per square foot. We have used in the big chart $12.85 a square foot because the Navy advised us that that was the figure. We had that in writing. The difference between that and $13.30 we understand from the Navy is that the Navy is unable to cut off the cost per square foot at the building plus 5 feet for utilities. In other words, they cannot segregate the utilities out beyond the 5-foot line. That is the reason we have the $12.85 a foot in the chart.

Mr. RILEY. You eliminated that, the utility cost?

Mr. DONNELLY. Beyond 5 feet. The building plus 5 feet; the utilities 5 feet from the foundation of the building to get a standard of comparison for housing space and cost.

Mr. RILEY. I see; and the Navy's cost per square foot included utilities beyond the 5-foot area.

Mr. DONNELLY. The $13.30 did, but the $12.85 did not.

STANDARD OF CONSTRUCTION AT MEMPHIS

Mr. DONNELLY. With respect to the construction of these barracks at Memphis, we have gone into this matter most thoroughly with Captain Ventres, representing the Bureau of Yards and Docks; and the Navy engineers have been working on it for the last several weeks and our engineers have been doing likewise, going down the plans and specifications for the purpose of ascertaining whether the Navy conformed to two standards. One is the directives of the Secretary of the Navy and the Chief of Naval Operations as to economy in construction and conservation of scarce material; and, second, the directive of the Munitions Board and of the Navy itself with respect to the space per man. I will develop here from the results of the work by the engineers that the Navy in Memphis violated both of those standards; that is, they used costly and expensive materials, critical materials unnecessarily; and, secondly, that they used more space per man than even permitted by their own criteria.

At the conclusion of our respective studies on 15 February 1952, which was last Friday, the Navy advised the following with respect to the Memphis operation:

> Generally, the type of construction, materials, and finishes used are not extravagant and in conformance with general Bureau practice.

I will put this document in the record a little later if I may because I have some other figures I would like to refer to.

Admiral JELLEY. I do not think that is quite right. That is a copy of an intradepartmental memo and not advice from the Navy to the committee. In other words, that was a comment from one department to another within the Bureau of Yards and Docks and not the official Navy position to the committee. The committee staff had requested a copy of the memo. You implied that we had advised you that the construction was not extravagant.

Mr. DONNELLY. Admiral, if you should desire now or during the course of this discussion on Memphis to make a statement on behalf of yourself and Yards and Docks, fine; but for the record at this point, may I say this: that the committee staff requested the liaison officer, Captain Ventres, for a statement in writing with respect to Memphis. This document that I read from was in response to that request. We received it over his signature. His covering letter was received on February 15, and transmitted this memorandum, which he explained had been prepared pursuant to the committee's request. Therefore, I took it to be an official statement of the Bureau of Yards and Docks.

Now, for the benefit of the committee——

Mr. RILEY. Just 1 minute. Does Admiral Jelley have any statement to make at this point or do you want to put something into the record?

Admiral JELLEY. I would rather wait until the questioning develops.

Mr. RILEY. Then you may proceed, Mr. Donnelly.

SUMMARY OF DEVELOPMENT OF MEMPHIS PROJECT

Mr. DONNELLY. Now, for the assistance of the committee members, we have prepared from data supplied by the Sixth Naval District and from interviews with contractors who considered whether or not they wanted to bid on the Memphis operation this memorandum which I will now pass to each member. If you will read it, it will probably save my reading it into the record.

Mr. RILEY. Without objection, the statement will be incorporated in the record.

(The statement referred to is as follows:)

TECHNICAL CENTER, NAVAL AIR TRAINING, MEMPHIS, TENN.[1]

By letter dated January 10, 1951, the district public-works officer, Sixth Naval District, informed Wyatt C. Hedrick, Fort Worth, Tex., of his selection as architect-engineer for the proposed barracks and related buildings at Memphis Naval Air Station. He was authorized on January 27, 1951, to proceed with the preparation of plans and specifications to be available for advertising by the first week in May.

On May 15, 1951, bids were solicited for the construction of two groups of permanent barracks (each group housing 900 men), subsistence building and training building at this base. A bidding period of 30 days was allowed. The completion period specified was 400 days for the barracks and subsistence building with a penalty of $950 per day thereafter and 360 days for the training building with a penalty of $375 per day thereafter.

The bidding documents provided for two separate barracks buildings of four wings each, with an alternate of one additional wing for each building, totaling five each. The plans and specifications were drawn to provide the 10 wings, but the Navy was apprehensive that the funds it had available in the second supplemental 1951 would not be sufficient for the 10 wings.

Only three bids were received. They were opened on June 15, 1951, and contract NOy 27274 in the amount of $5,444,637, based on eight wings, was awarded the low bidder on July 16, 1951, payable from the second supplemental 1951 funds. The contract amount was increased to $6,184,399 by change orders amounting to $739,762 (payable from regular fiscal year 1952 funds). These change orders added the two wings which had been deleted. (This amount was approximately 2 million dollars in excess of the preliminary cost estimate.) When the additional work was added, the completion period was increased by 50 days.

Representatives of the Navy were unable to explain contractor's lack of interest in this work as demonstrated by the receipt of only three bids, although the Navy

[1] Committee staff note: This summary was prepared by the staff from data furnished by the Sixth Naval District and from interviews with contractors.

widely advertised the invitations to bid and numerous contractors had secured the plans, specifications and bidding documents. Searching for this answer, the committee staff interviewed four large and responsible contracting firms in the Memphis area, each of which had obtained the plans and specifications. The results of these interviews reflected two principal factors which lessened the competition for this work. The size of the project, which could have been let as four different projects,[2] eliminated many potential bidders in the Memphis area; and the unrealistic completion period and attendant excessive damages of $950 per day for barracks and mess halls and $375 per day for the training buildings, discouraged bidding.

One of the large contractors in the Memphis area advised that this project was the highest type and costliest job that his firm had figured in many years. Another contractor was critical of the elaborate and costly features of the design. Both referred to the heavy tax burden. A third large and responsible contractor in the Memphis area furnished the following comments relative to this project:

"Probably the prime factor in our not submitting a bid on this project, after taking out plans and examining this job in detail, was the exceedingly large liquidated-damage clause and the short time of completion for this project under present day conditions. We knew after examining the plans that we would not be able to finish this job in the time allotted and would have to include in our bid approximately 3 months' penalty, or approximately $90,000 to $100,000 to cover the liquidated damage. This being in addition to approximately 30-percent increase in labor costs to cover premium wages, which would have had to have been paid on this project, as we felt that the job would have to be prosecuted with overtime work to complete the job on time.

"We are unable to understand why the Army and Navy persist in putting out these projects for bids with such short completion periods and high liquidated-damage clauses, as this practice is surely costing the Government 10 to 15 percent over what the same work would cost as compared to private work.

"The writer also fails to understand why the contracts being let by the Government are either below $20,000, or $25,000 or else above 2 or 3 million dollars. This practice has eliminated from the field of competition a greater portion of the contractors in business. For example, if the job, which is the subject of this letter, had been let in four parts, the writer is certain beyond a doubt that the Government would have had six or seven bidders on each of the individual projects mentioned above; but, due to the magnitude of the job as a unit, those bidders in the $500,000 to $1,500,000 class were eliminated. In the city of Memphis there are only one or two contractors who can bid over 1½ to 2 million dollars. The balance of the contractors in the city of Memphis can bid work from $1,000,000 down, so that the contract at Millington being let in one job eliminated all of these potential bidders.

"The writer believes without reservation that, if the above-mentioned job had been let as four projects, it would have saved the Government thousands of dollars. The only way the majority of contractors in Memphis can bid such projects is as coadventurers, and this should not be necessary.

"The writer believes that, if the Government would consider letting jobs with more thought given to the following prime factors, they would get their work done more economically, and just as satisfactorily:

"1. Reduce the size of the jobs so more contractors can bid on the work.

"2. Give a reasonable time for completion so as to eliminate having to figure premium wages.

"3. A nominal liquidated damage so that a contractor does not have to include a large sum of money in his bid to cover this contingency.

"If the above were adhered to, the writer feels sure that the Government would get more bids and keener competition and just as good a job."

Mr. RILEY. Admiral Jelley, with respect to the statements made in that summary, on the development of the project, are you prepared to state or can some of your people here say whether these statements are in accord with your records?

[2] This was stated by a large contractor in the area who was thoroughly familiar with the job.

COST OF MEMPHIS PROJECT

Admiral JELLEY. There is only one statement that I question. In the fourth paragraph on the first page, toward the end of the paragraph, this statement appears in parentheses:

This amount was approximately 2 million dollars in excess of the preliminary cost estimates.

I question that. I am afraid I have not the records here, unless Mr. Glenn happens to have details available. I followed this project rather closely at the time because it was the only large barracks project in the second supplemental, and I expected the subject to come up in our regular 1952 hearings which were going to be held during the summer. I recall at the time that when the bid price came in I thought it was higher than our estimates. I was very much disappointed. But, on checking, I found that they had lumped together, I believe it was, the first supplemental money or the second supplemental money and what in effect was planned for the 1952 appropriation. The cost of the whole barracks was within the total of the two appropriations. In making a rough computation here on the basis of the number of men, the number of square feet, and the cost per square foot; I get a figure that is not far out of line. Two million dollars on a total contract price of six-million-odd dollars would be about 30 percent. It would be a 50-percent increase from $4 million to $6 million. It was not that far out. I think the reason for the $2 million increase was that they had enough additional money in the 1952 appropriation bill to cover the work under the original bid. I would like to check that further if the committee does not mind.

Mr. DONNELLY. We have here the abstract of bids.

Admiral JELLEY. I would have to have the number of men authorized in the first or second supplemental and the 1952 bill.

Mr. DONNELLY. I do not think that the comment in this memorandum that you have referred to, that was a preliminary cost estimate, relates to the amount in the budget or the amount testified to a committee. I think it is an estimate of the Sixth Naval District or the architect-engineer, either one or the other.

Admiral JELLEY. I have no knowledge of what that estimate was.

(Discussion off the record.)

Admiral JELLEY. It could have been in excess of the architect's or the district's original estimate.

Mr. DONNELLY. The reason that that is particularly important is this: In the course of time I would like to ask on behalf of the committee if this operation at Memphis could not have been constructed in accordance with the Navy's own criteria within the original figure which Congress included in the second supplemental of $5,444,637 for the entire 10 wings. That is the relevance of the figures.

Admiral JELLEY. I was under the impression we were within the appropriation.

Mr. RILEY. Off the record.

(Discussion off the record.)

Mr. DONNELLY. Admiral, would it help any if we were to put the abstract of bids in the record at this point?

Admiral JELLEY. I would want the estimate that you said was too many dollars less and the basis of that.

Mr. FURCOLO. The preliminary cost estimate.
Mr. DONNELLY. That was in advance of the bidding.

CONTRACTORS' LACK OF INTEREST IN BIDDING

Now, since the summary which each committee member has read contains comments of contractors as to why they did not bid and since it refers to the large number of contractors who were invited to bid, I would like to have printed in the record, not at this point but in the appendix, the Navy's copy of the list of people to whom invitations to bid were sent. I think that it is an authentic document. Is that correct, Admiral?

Admiral JELLEY. It certainly appears to be.

(NOTE.—The list is printed in the appendix at p. 319.)

Mr. FURCOLO. I did not know whether you would want it here or some place else, but is there any question about what this contractor says with reference to the size of contractors? In other words, this list here, are they people who are within the description that he mentioned here?

Mr. DONNELLY. That is, financially responsible up to $1 or $2 million.

Mr. FURCOLO. This contractor points out that most of them could take work under a certain amount. I wondered offhand if that is true.

Mr. DONNELLY. I would not have any way of knowing except that the Navy selected this large group. Whether they are all qualified, I do not know. Do you know, Admiral?

Admiral JELLEY. I could look them over and give you a quick opinion. Did you mean, is this limited to people who would do a $6-million job?

Mr. FURCOLO. No; what I mean is that this contractor in his letter seems to more or less take the Navy somewhat to task because they did not split up the bidding. He points out that in that city there are only a couple of bidders who could handle a job of this magnitude and there are a great many who could have handled it if it were in between. I have no knowledge of the area down there, and I do not know whether what he says is true or not. Maybe there are only two bidders in the city who can handle it. Maybe there are 50. I assume that you perhaps have some knowledge that might be appended to that list at the time. I do not mean to do it now. But I would be interested in knowing how accurate his criticism is. That might be one thing on which you could agree.

Admiral JELLEY. I only recognize the names of about 10 persons.

Mr. FURCOLO. Not necessarily now.

Admiral JELLEY. I do not think it would be worth getting my opinion on it. I recognize only a few names.

Mr. DONNELLY. Since that is going into the appendix at the end of the hearings, would you ask someone in the Bureau to specify those contractors on that list who were qualified to submit bids for a job of that magnitude.

Admiral JELLEY. I do not know whether we could do that or not. If they had filed a data sheet with us within the last 6 months and given their financial summary, we could do it.

Mr. PATTERSON. It is difficult, without going to Dun & Bradstreet, to find out.

Mr. FURCOLO. This man says in his letter there are only one or two contractors in the city of Memphis who could bid over one and one and a half to two million dollars. I do not know whether you people agree with that. But apparently you have a big long list of bidders here, and the question in my mind is, Are you just sending out a list that doesn't amount to anything, or is that man wrong, or what is the story? Do you get what I am driving at?

Admiral JELLEY. Let me tell you something about the list. We encourage contractors to contact district public-works officers. They often say, "Please send me a notice of any jobs coming up in this area or that area in the building line." They may say jobs limited to $5 million or $10 million. So I would say half of those on the list were people who had gotten in touch with the district and said, "Please let us know of jobs coming out." Their idea is to get this brief of the job which will let them decide whether or not to take out plans and specifications.

Mr. FURCOLO. I do not understand what you are driving at.

Admiral JELLEY. In general, though, I would say I agree——

Mr. FURCOLO. If you send out 59 letters——

Admiral JELLEY. And get one answer——

Mr. FURCOLO. Investigation would show only one or two people could do it. In effect you are more or less at the mercy of the bidder. That is why it seems to me it is necessary to know something about this because to me it would be indicative of how careful you were.

Mr. DONNELLY. Exactly.

Mr. FURCOLO. This man has a good point if what he says is true. He may be right, he may be wrong; I do not know.

Admiral JELLEY. Would you rather discuss that now on this specific project or not? Mr. Donnelly furnished me with copies of some 30 letters, and I think it is something that should be discussed before the hearing is over. This is off the record.

(Discussion off the record.)

BIDS RECEIVED ON MEMPHIS JOB

Mr. DONNELLY. Let us put in this abstract of bids at this point in the record. Is that agreeable to members of the committee?

Mr. RILEY. Without objection, it will be inserted.

(The abstract referred to is as follows:)

Scale of offers received under advertisement of the Bureau of Yards and Docks, Navy Department, for additional aviation training facilities at Naval Air Station, Memphis, Tenn.

[Specification No. NOy-27274, 29414. Bids received until 2 p. m., on June 15, 1951]

No.	Bidders	Item No. 1	Item No. 2	Item No. 3	Item No. 4	Item No. 5	Item No. 6	Item No. 7
1	R. P. Farnsworth Co., Inc.	6,185,526	6,184,399	6,179,242	6,389	−2,938	−139,530	−139,922
2	Dougherty-Liddell Consolidated Contractors	6,367,176	.....	.....	6,200	−2,600	−135,684	−135,684
3	Harmon Construction Co.	6,932,000	6,924,000	6,924,000	6,332	−1,321	−146,153	−150,168

No.	Bidders	Item No. 8	Item No. 9	Item No. 10	Item No. 11	Item No. 12	Item No. 13	Bid security 5 addenda noted
1	R. P. Farnsworth Co., Inc.	−138,212	−298,451	−298,451	−72,595	2,000	−18,632	Yes; 1–5.
2	Dougherty-Liddell Consolidated Contractors	−134,000	−308,800	−307,600	−85,523	.....	−26,000	Do.
3	Harmon Construction Co.	−143,699	−314,867	−314,867	−87,641	1,953	−8,067	Do.

We hereby certify that we have personally opened all bids and that all bids have been entered above.

W. T. ECKBERG,
Captain, CEC, United States Navy.
J. A. DURSSE.
MARIE T. SOUBEYROUX.

APPLICABILITY OF ADMIRAL SHERMAN'S DIRECTIVE TO MEMPHIS PROJECT

Mr. DONNELLY. Now the memorandum which each Congressman has read indicates the timing involved. January 2, 1951, had been the date of the directive of the Chief of Naval Operations, Admiral Forrest Sherman, on austerity. Authorization for the preparation of plans and specifications for Memphis was dated January 27, so certainly ample time elapsed for the Chief of Naval Operations' directive to permeate down through the various levels.

Then, you get timewise further, bids opened June 15, 1951.

Now, in the organization of Bureau of Yards and Docks, the Chief is here in Washington, Admiral Jelley, with his staff; and in the various naval districts there are district public-works officers. The district public-works officer who has charge of Memphis in the Sixth Naval District is Capt. W. T. Eckberg, stationed at Charleston, S. C. From the work that we have done, we have been impressed by his thoroughness and his efficiency in general. We have here a memorandum he wrote 4 days after bids were opened on Memphis quite pertinent to the subject, dated June 19, 1951.

I would like to ask you, Admiral Jelley, have you previously had occasion to read this memorandum of Captain Eckberg of June 19, 1951?

Admiral JELLEY. I do not recall reading it before.

Mr. RILEY. The memorandum will be inserted in the record at this point.

(The memorandum is as follows:)

JUNE 19, 1951.

From: District public-works officer, Sixth Naval District.
To: Officer in charge of construction, Naval Air Basic Training Command, United States Naval Air Station, Pensacola, Fla.
Resident officer in charge of construction, United States Naval Air Station, Jacksonville, Fla.
Resident officer in charge of construction, United States Naval Station, Key West, Fla.
Resident officer in charge of construction, United States Naval Air Station, Memphis, Tenn.
Resident officer in charge of construction, Marine Corps Air Station, Cherry Point, N. C.
Resident officer in charge of construction, Marine Corps Recruit Depot, Parris Island, S. C.
Resident officer in charge of construction, Marine Barracks, Camp Lejeune, N. C.
Resident officer in charge of construction, Marine Corps Depot of Supplies, Albany, Ga.
Subject: Design of facilities financed under appropriation "Public works, Navy."

1. Bids have been opened for the majority of the contracts to be let for construction of facilities financed by subject appropriation. The design of the majority of the facilities was performed under A. & E. contract.

2. Bids thus far received indicate there has been a tendency to overdesign, since in many cases the low bids received have exceeded the funds set up for the various projects and subprojects. In some cases it is apparent that insufficient funds were appropriated to provide usable facilities answering the descriptions contained of the facilities in the presentation to Congress. In other cases, however, it is apparent that the excessive bids were due to either overdesigning the facilities or through including in the design additional facilities not needed to meet the basic requirements of the approved project and therefore outside of the basic scope of the project.

3. It is requested that for design work now underway or to be performed in the future that the basic design of each project be prepared in strict accordance with the authorized scope as given by the Bureau of Yards and Docks and the Management Bureau, with bidding items in the specifications so prepared that the basic bid will cover this authorized project. The number of deductive or additive items that will change the scope of the work, as compared with additive or deductive items that apply only to type of construction, should be kept to a minimum. During the course of design, estimates should be obtained based upon preliminary design so that changes in the design can be made if it is found that the preliminary design indicates that construction of the facilities in accordance with preliminary design cannot be built with the funds available.

W. T. ECKBERG.

BIDS ON MEMPHIS JOB UNEXPECTEDLY HIGH

Mr. DONNELLY. Now that you have read it at this time, can you tell us whether the bid opening on this Memphis job came to your attention on June 15, 1951, or shortly thereafter?

Admiral JELLEY. It did.

Mr. DONNELLY. Could you give the committee your opinion with respect to the amounts of money contained in the bids as to whether they were high or whether they were within the limits that you had expected?

Admiral JELLEY. When I inquired as to the results of the bid opening at Memphis, I was surprised because they were above the amount appropriated in the second supplemental. My reaction was to find out why. At that time we were still in a period of price changes. Upon study of the problem in the Bureau, it was reported to me that the reasons the bids were high was that they had included the barracks for all the men authorized in both the second supplemental and in the 1952 bill.

LACK OF ADMINISTRATIVE SUPERVISION IN WASHINGTON ON MEMPHIS JOB

Mr. DONNELLY. Well, Admiral, did you inquire as to whether the barracks job as advertised and on which bids were taken was in conformity and obedience to the Navy criteria on space per man and on the type of materials used, construction materials?

Admiral JELLEY. No. I inquired to see whether the bids were within the figure, which I recall was $2,200 per man, that had been given to the committee.

Mr. DONNELLY. Did you have occasion to discuss this matter with Captain Eckberg, the district public-works officer of the Sixth Naval District?

Admiral JELLEY. No.

Mr. DONNELLY. Did you take any steps to see if economies could be effected in the matter of constructing these barracks?

Admiral JELLEY. Not as far as the barracks at Memphis were concerned. The general question of barracks construction, of course, has been a matter of interest to us over the past few years.

Mr. DONNELLY. Can you tell us, Admiral, if the architect-engineer who was commissioned to design the Memphis barracks under date of January 27, 1951, was given notice of the directive of the Chief of Naval Operations with respect to the absolute need for economy in design and conservation of scarce and costly materials?

Admiral JELLEY. I do not know whether that directive was brought to his attention.

Mr. DONNELLY. After the architect-engineer had drawn plans and written specifications for the Memphis barracks and submitted architectural renderings which we have here on the table, can you tell us whether you or anyone here in the Bureau examined the plans and specifications and the architectural renderings for the purpose of determining whether they were within the directive of the Chief of Naval Operations on economy?

Admiral JELLEY. No. I cannot tell you whether it was done in the Memphis case. We depend on the district public-works officer to make the detailed check and review of plans and specifications. In the Bureau we operate more or less on a spot-check basis; and, whether or not Memphis was one of those that were spot-checked, I do not know. I do know that the renderings showed up only within the last few weeks. However, we undoubtedly got the copy of the plans and specifications at the same time they were distributed to contractors for bid.

Mr. DONNELLY. Did I understand you to testify a little earlier here this morning that this Memphis barracks operation was the only barracks under construction or contemplated at that time?

Admiral JELLEY. Certainly it was the only big one in the second supplemental, which consisted mostly of runway projects, and this was the only large barracks job.

NAVY CRITERIA APPLICABLE TO MEMPHIS (BUT NOT FOLLOWED)

Mr. DONNELLY. In order to give the committee the benefit of the criteria which has been established by the Navy for these barracks and which I believe we will show were violated, let me invite the attention of the committee to the basic documents.

This package of documents is rather bulky and I do not want to impose upon the committee by asking the members to read it all. May these documents be printed in the appendix, Mr. Chairman.

Mr. RILEY. Yes; they will be incorporated in the appendix.

(NOTE.—The documents are printed in the appendix at p. 297.)

Mr. DONNELLY. First of all, there is a covering letter which shows that the documents were officially furnished to the committee.

Then, on the next page, we have the directive of the Assistant Secretary of the Navy, dated December 19, 1950. You note in paragraph No. 1 that principles of economy of man-hours, materials, equipment, and transportation are emphasized.

Then, if you turn to the next page after that one, you have things that are prohibited in the matter of temporary military installations. We are not concerned with those because Memphis was a permanent installation, but let's pass on to the next page and we get the letter of November 15, 1950. And that letter is the directive of the Munitions Board with respect to the need for economy in military construction. As you see in paragraph No. 2, that brings us to the construction standards which are an enclosure to this November 15 letter.

Admiral JELLEY. I think that the construction standards are the same as went with Mr. Koehler's letter immediately preceding.

Mr. DONNELLY. You are correct, Admiral; so, will the committee members go back one to the third document entitled "Construction Standards." These construction standards are the result of a desire on the part of the Pentagon to accomplish unification and, specifically, to go into unification on such matters as military construction. You will find in the fourth paragraph, under the heading "Space allowances," a mandatory direction by the Department of Defense with respect to the area permitted per man. You see (reading):

> Space allowances for troop housing will be: (*a*) For permanent and semipermanent construction (10–20-year life), 72 square feet per man, exclusive of stairways, toilets, furnace rooms, and other common areas.

I will demonstrate to the committee members shortly that the Memphis barracks violated this directive in that they provided more than the 72 square feet per man.

Then you get the next paragraph, "Principle of economy." This is of particular interest to the committee members, I am sure, because this is a real concrete endeavor on the part of the Department of Defense to economize in the matter of military construction. Whether they were able to achieve similar unification in procurement and other matters is a subject matter of other hearings before another committee.

NAVY CRITERIA FOR CONSTRUCTION OF PEACETIME BARRACKS

Then, the next thing that we have here is the printed document of January 8, 1948, which is signed, incidentally, by Admiral Jelley when he was Deputy and Assistant Chief of the Bureau of Yards and Docks. In this document Admiral Jelley is officially submitting the Navy design criteria for enlisted men's barracks. This is back in 1948 in relative peacetime.

We turn to the design criteria themselves. If you will go over about 2 pages or so to "Design criteria," and you look at page 1 of 3, and you will find space allowances prescribed. And you find down at

the bottom, under paragraph No. 3, 70 square feet per man. That was increased to 72 square feet per man by the Munitions Board directive.

Mr. FURCOLO. Do you know what date that was?

Mr. DONNELLY. Yes.

Mr. FURCOLO. The date of the change.

Mr. DONNELLY. November 15, 1950, by the Munitions Board.

Admiral JELLEY. April 17, 1951, by the Navy.

Mr. FURCOLO. The change from 70 to 72 square feet.

Admiral JELLEY. I think you will find something immediately after page 3 that promulgated that change.

Mr. DONNELLY. On page 1 of 3, where you have the 70 feet at the bottom, that the members were looking at, I would like to invite your attention to paragraph No. 2, "Accommodations," having in mind that these criteria were gotten together in relative peacetime. We find that dormitory shall be two bunks wide. In the next sentence it is recommended that bunks be arranged in cubicles four bunks each with dividing partitions between groups. If cubicles are not used, bunks shall be spaced not less than 6 feet on centers. And then there are provisions for toilets and the like.

On the next page, which is page 2 of 3, we get the plumbing allowances per man. And we will show at Memphis that the barracks exceeded even these peacetime minimum criteria for plumbing allowances.

Now, if I may ask the members of the committee to open the first plan, which is right here, to give you an idea of what those words mean. You will find the three plans are really the same thing—100-man barracks—except that the first one is for tropical type; the second is for temperate, and the other is for northern type. On the Navy's own map of where tropical is, Memphis is slightly within the tropical fringe. It is at the bottom of the temperate and slightly within the tropical. In looking at No. 1, if I can assist the committee members here, the 72 square feet per man as used by the Army and the Air Force encompasses these areas here. You have the distance from this point to this point, 20 feet. The distance in width is 28 feet here, but with the increase to 72 feet a man the width is 29 feet. So the area is 20 feet long and 29 feet wide. Within that area there are eight men sleeping in two cubicles.

Memphis permits each of those men in that area 72 feet, which is in conformity with that Munitions Board criteria. But, when this common area at the end down here is added, you see at the end of the cubicles right here when you add this; Memphis provides 79.1 square feet per man.

The Army and the Air Force, when you add that one at the end that we are looking at, still come up with 72 square feet a man. The Navy is a little bit excessive in use of space there in interpreting the Munitions Board's directive.

The committee members will note in this drawing of standard plans at the top. If you look at the top, you find at the end of the roof a slight projection which is called a overhang. That overhang is 2 feet 6 inches. And in peacetime that is perhaps all right. It is expensive

because it requires additional carpenter work in making the form. It requires additional concrete and requires additional reinforcing steel to hold that overhang out.

Admiral JELLEY. This shows a 6-foot overhang.

Mr. DONNELLY. We had figures someplace showing 2 feet, 6 inches.

Mr. SULLIVAN. Six feet for tropical climates.

Mr. DONNELLY. Overhang?

Admiral JELLEY. Right above the second floor on the second building down.

Mr. DONNELLY. By "overhang," I do not mean that; I mean the roof overhang in the top drawing.

Admiral JELLEY. On the temperate type there is a smaller overhang that I cannot read; it looks like 9 inches.

Mr. DONNELLY. The respresentatives here from the Bureau of Yards and Docks point out that on a definitive drawing for the tropical type the overhang is 6 feet. I had indicated 2 feet, 6 inches.

Admiral JELLEY. And on temperate type, 3 feet 6 inches.

Mr. DONNELLY. Which is the second plan, 3 feet 6 inches.

Admiral, the committee members want to recess. It is noon now; but, while they have this plan out, let me ask one or two general questions.

NAVY HAS NOT MODIFIED CONSTRUCTION CRITERIA FOR BARRACKS SINCE KOREA

These plans were standard plans when prescribed in 1948. Has the Bureau of Yards and Docks since Korea prescribed any deletions from these plans with respect to space, or gotten out new plans which would permit construction of standard barracks for less money?

Admiral JELLEY. No, sir; not for permanent-type construction. We have put out a set of plans for temporary mobilization-type construction, but we have not put out new plans for permanent-type construction.

Mr. DONNELLY. You have, as I understand, built permanent-type barracks since Korea?

Admiral JELLEY. Yes.

Mr. FURCOLO. I did not have it clear in my own mind. For permanent, it says 10 to 20 years.

Admiral JELLEY. Semipermanent.

Mr. FURCOLO. What is temporary?

Admiral JELLEY. Temporary is 5 years. Semipermanent is 10 to 20 years. Permanent is more than 20 years.

Mr. FURCOLO. What is 5 to 10?

Admiral JELLEY. There isn't such a type listed.

Mr. FURCOLO. I see what you mean.

Mr. RILEY. Temporary construction will run somewhat in that neighborhood.

It is 12 o'clock. The committee will recess and reconvene at 2 if that is agreeable.

AFTERNOON SESSION

MONDAY, FEBRUARY 18, 1952.

Mr. RILEY. The committee will come to order.
Will you proceed with the hearing, Mr. Donnelly?

FURTHER DETAILS OF NAVY CRITERIA FOR BARRACKS

Mr. DONNELLY. Thank you, Mr. Chairman. I would like to invite the attention of the committee to the Memphis barracks. You will note in the plans and specifications that provision is made for the projected entrance from the outside. Is that correct, Admiral?

Admiral JELLEY. Yes, sir.

Mr. DONNELLY. Admiral, let me ask you if the plans do not show an arcade also on the first floor? There is a projection on the entrance on the first floor?

Admiral JELLEY. Yes, sir.

Mr. DONNELLY. There is an arcade on the first floor that runs right straight through from front to back as you can see at the top of the plan?

Admiral JELLEY. Yes, sir.

HOUSING OF PETTY OFFICERS SEPARATE FROM ENLISTED MEN

Mr. DONNELLY. And on this standard design criteria we find the noncommissioned officers separate from the enlisted men. Doesn't that relate to the three grades of men below chief petty officers?

Admiral JELLEY. I understand it includes chief petty officers, first and second class petty officers.

Mr. DONNELLY. And they are housed separately from enlisted men?

Admiral JELLEY. In the standard barracks. Although, as a matter of practice, you will find them in the large dormitories, too.

Mr. FURCOLO. The chiefs are with the others?

Admiral JELLEY. Yes, sir.

Mr. DONNELLY. Let me invite your attention to the directions of the Munitions Board that provides 72 square feet per man. In interpreting the directive, has the Bureau of Yards and Docks treated petty officers below the class of chiefs separately from enlisted men?

Admiral JELLEY. Yes, sir. The directives stated enlisted men, while our criteria set up so much for enlisted men and so much for petty officers.

Mr. DONNELLY. So there will not be any confusion, I was referring to the Munitions Board directive setting down 72 square feet. I find there no distinction between enlisted men and petty officers.

Admiral JELLEY. No. They simply defined it as troop housing.

Mr. FURCOLO. This is the Secretary of the Navy.

Mr. DONNELLY. This is the Munitions Board and the Secretary had to conform.

Admiral JELLEY. Chief petty officers. I consider that chiefs should go in here, too. Mr. Sullivan is closer to that problem than I am.

Mr. SULLIVAN. When the Secretary said 72 square feet we interpreted that to mean nonrated enlisted men. NCO's up to the grade of chiefs are allowed 90 square feet. Chiefs are allowed 180 square feet.

Admiral JELLEY. So the answer to the question is, we do consider chiefs separately. For petty officers 90 and enlisted men 72 and chiefs 180.

Mr. DONNELLY. If you turn to this printed design criteria——

Admiral JELLEY. Yes.

Mr. DONNELLY. Now, the admiral is distinguishing—he is testifying that the Yards and Docks allows petty officers 90 square feet per man instead of 72 square feet allowed to enlisted men, and I take it that is the interpretation which the Navy has placed on the Munitions Board directive.

Admiral JELLEY. I think you will find that interpretation has invariably been accepted by the Navy.

Mr. FURCOLO. Off the record.

(Discussion off the record.)

Mr. DONNELLY. On the record. Now, Admiral, with respect to the 90 square feet for petty officers, and as you have testified, 180 square feet for chief petty officers—can you tell the committee whether the Munitions Board directive in your view was limited in space allowance to enlisted men?

Admiral JELLEY. By the use of the words "troop housing" I think so. After all, NCO's and troop housing are not Navy terms. My impression of troop housing is that it is for first-class privates, privates, and so forth. I do agree with you that we did not clarify that point and I think it was undoubtedly a point that should have been clarified in transmitting this to the field.

EFFECT GIVEN MUNITIONS BOARD DIRECTIVE BY NAVY

Mr. DONNELLY. Admiral, in transmitting this to the field, did Yards and Docks give any instructions to the field from the content of the Munitions Board directive, in addition to the increase of the enlisted men's space from 70 to 72 square feet? Did the Yards and Docks tell the field that the economy features emphasized in the Munitions Board directive were to be followed and to that extent the standard design criteria modified?

Admiral JELLEY. We have issued from time to time various letters, to the district public works officers in particular, since they have the immediate control of the design—letters regarding critical materials. I believe we got one out in January a year ago. We now have one that has been under preparation during the last 6 weeks to bring things up to date. In addition, we have had meetings of the district public works officers. As I recall, we had one in December 1950 or early in January 1951 and we had one last summer. We had them in for 2 days and went over these problems orally. There has been so much in the way of directives issued formally and in conference that I am a little hazy as to what actually went out. But I do recall one formal letter a year ago and one is being prepared now to bring them up to date. I do not remember whether we had anything tied up to barracks design specifically.

Mr. DONNELLY. The committee staff has been particularly interested in acquiring a copy of such letters or memorandum.

Admiral JELLEY. We will certainly make a search and get them for you.

Mr. DONNELLY. With respect to these questions of direction from the top in the matter of designs of such structures and barracks, we have examined carefully the other documents, in addition to the barracks criteria, for the purpose of determining whether there is anything in them to emphasize the matter of economizing costly materials. I have the material furnished by the liaison officer in my hand. It is quite bulky and contains the various criteria that have been disseminated by the Bureau of Yards and Docks. It is dated December 7, 1951.

Admiral JELLEY. Yes, sir.

Mr. DONNELLY. If there are any places in these documents where that occurs I wish your staff would point them out, for the committee's benefit.

Admiral JELLEY. I would assume that there would not be reference to that in this criteria, which are more or less permanent standards. The letters signed by Mr. Koehler and Admiral Sherman or general instructions from the Bureau on the use of structural steel or cement are examples.

Mr. DONNELLY. I adverted to that because we want to show we have been complete—to indicate the extent to which we have exhausted the sources and have not found anything on economy. Now, to indicate the extent to which these criteria have been disseminated for the use of the district offices, we have here a copy of the memorandum to the district officer in charge of construction of the Eleventh Naval District which we would like to put in the record at this point in which the officer, Captain Flaherty, has notified his resident officers-in-charge of construction of these criteria. This is dated May 1, 1951. I have read it through and fail to see anything here emphasizing the need for economy or conservation. That is the transmittal letter transmitting the criteria.

Mr. RILEY. The memorandum will be printed at this point in the record.

(The memorandum is as follows:)

PUBLIC WORKS OFFICE,
ELEVENTH NAVAL DISTRICT,
San Diego, Calif., May 1, 1951.

From: District officer in charge of construction, Eleventh Naval District.
To: All resident officers in charge of construction.
Subject: Public works construction, policy regarding use of standard structures.
Enclosure: (1) Copy of CNO ltr file 21/mb over A1–1 (Y. and D.) to distribution list dated January 2, 1951.

1. Enclosure (1) is forwarded herewith for the guidance of resident officers in charge of construction.

2. The Bureau of Yards and Docks has to date issued design criteria covering the following items:

General guide to aerial mapping for construction
Planning and design purposes
Enlisted men's barracks
Roads, parking areas, sidewalks, and bridges
Refrigeration
Heating, ventilating, and air conditioning
Central steam plants
Water systems
Sewerage systems
Plumbing systems for buildings
Structural
Brigs
Quarters for married personnel

Earth-supported concrete floor slabs
Fire-fighting facilities
Electrical systems
Fire prevention and fire protection for structures
Enlisted men's subsistence buildings
Structural lumber
Incinerators

Design criteria on additional items will be forthcoming from time to time.

3. Designs prepared in the district public works office or for the district public works officer by A. and E. contract will be based upon these criteria. Strict adherence to the use of standard plans is the policy. Where deviation from standard plans is essential because of unusual site conditions or other considerations of overriding importance, the authority of the officer in charge of construction will be required in each case. Ordinarily the question of deviation will arise in the preliminary design stage and will first be brought up by the A. and E. to the project design engineer in the district public works office. The A. and E. in obtaining his information at the site, will usually be in contact with the resident officer in charge of construction. In furnishing information to the A. and E., the resident officer in charge of construction will be guided by enclosure (1) to tailor the requirements for buildings and facilities to permit the use of standard plans in all but the most unusual cases. In such unusual cases, the resident officer in charge of construction will submit a brief memorandum to the district officer in charge of construction explaining the unusual engineering circumstances and the justification for treating them as exceptional.

4. In planning conferences, resident officers in charge of construction will advise the station command of the necessity of adhering to standard plans and design criteria. Enclosure (1) has been sent officially to the commanding officers of all stations.

A. I. FLAHERTY, *Captain, CEC, USN.*

Mr. FURCOLO. Off the record.
(Discussion off the record.)

AIR FORCE DIRECTIVES ON CONSERVATION

Mr. DONNELLY. On the record. Now, in line with matters which the committee is now considering, I would like to invite the attention of the committee to the efforts and steps taken by the Air Force in this very situation. The Air Force has gotten out under date of June 1, 1951, a document entitled, "Air Force Policy for the Conservation of Critical Building Materials." The article is two pages long and contains the standard or more costly peacetime type of construction, and gives the present time substitute.

Admiral JELLEY. Yes, sir.

Mr. DONNELLY. It states that low-alloy, high-alloy and stainless steels are in extremely short supply, and should not be used in building construction, and it gives substitutes. Then there is a reference to the use of enamels. I asked the Navy Inspector General, Rear Admiral Kendall, whether the Navy had gotten out similar information to the field and he said his office had not. His office had in turn relied on Admiral Jelley, Chief of Yards and Docks, to handle this type of caution to officers in the field.

Admiral JELLEY. The Navy organization is somewhat different. I do not recall our Inspector General's office issuing any publications of that nature. A statement of that sort would come from the Office of Naval Material, not from the Inspector General. I also will check on the Office of Material letters as well as our own.

Mr. DONNELLY. It would be helpful. We are seeking information, and in Admiral Forrest Sherman's directive he says:

"I have instructed the Inspector General to give special attention to these matters of conservation and economy."

I asked Admiral Kendall whether any variations or departures from Admiral Sherman's directive had been noted and he said only infrequently and in a minor sense. I asked if the Memphis situation had been investigated or not and he said, "No."

MEMPHIS BARRACKS EXCEEDS EVEN NAVY PEACETIME STANDARDS

So, I would like to invite comparison of the Memphis job with the standard criteria which each of the members has been examining, and ask that this document showing the comparison be inserted here.

Mr. RILEY. Without objection, it is so ordered.

(The document is as follows:)

MEMORANDUM

From: C–311. C–311 (HCS)/es
To: C–300. *15 Feb. 1952*
Subject: Barracks—NAS Memphis, Tenn. Space analysis and type of construction.

1. *Space analysis.*—Following is a comparison of space allowances of Memphis Barracks with Bureau criteria:

Item	Unit of quantity	Memphis barracks	Bureau design criteria (revised)
Capacity	Men	900	100
Floor area:			
Gross (outside dimension)	Square feet	139, 674	14, 364
Net usable space	do	123, 264	
Net usable space (minus study)	do	118, 364	13, 000
Area per man:			
Gross (outside dimension)	do	155	143. 6
Net (usable space)	do	137	
Net (minus study room)	do	131. 5	130
Dormitories:			
Enlisted men	do	78. 6	79. 1
Noncommissioned officers	do	109. 1	96. 7
Enlisted men (typical bay)	do	70	72
Noncommissioned officers (typical bay)	do	95	90
Day rooms:			
Enlisted men	Square feet per man	13	12
Noncommissioned officers	do	25	25
Study room	do	544	None

2. *Construction.*—The construction of the Memphis Barracks is as follows:

Foundations: Spread footings.
Structural frame (floors and roof): Reinforced concrete.
Exterior walls: Four-inch brick with 8-inch concrete tile back-up.
Roof: Flat roof with 2-inch insulation and built-up roofing.
Sash: Awning type, steel sash.
Partitions: Haydite block (lightweight concrete) unfinished in service rooms, painted in major rooms.
Floor finishes: Cement floor in service rooms, asphalt tile in major rooms, ceramic tile in toilets and baths.
Ceilings: Acoustic tile in day and study rooms, suspended plastered ceiling in toilets, all others unfinished.
Doors: Interior, wood with metal frames; exterior, metal doors and frames.

Generally the type of construction, materials, and finishes used are not extravagant and in conformance with general Bureau practice.

HOWARD C. SULLIVAN.

Mr. DONNELLY. This document is important because the Bureau of Yards and Docks was to analyze what was being done at Memphis in comparison with their own peacetime practices for construction and we find the Memphis job violates their own peacetime requirements. The second column is "Bureau design criteria (revised)." The second is the one that tells the story. "Area per man, gross (outside dimension)" is 143.6 square feet predicated upon peacetime criteria and at Memphis we find it 155 square feet.

Mr. FURCOLO. Is that based on full capacity? That is taking the number of men that have taken the barracks for single bunking?

Admiral JELLEY. Single bunking. You can increase the capacity to 150 by double bunking half the bunks. That still gives you 500 cubic feet of air per man.

Mr. FURCOLO. But your standard of comparison is 1948. That is single bunking. Are both columns based on single bunking?

Admiral JELLEY. Both columns are on the same basis.

Mr. DONNELLY. Then you find on dormitories 78.6 square feet. The peacetime criteria is 79.1 square feet, if you include the space at the end of the bunks, that common area which the Army and the Air Force have included in their 72 square feet. You find the noncommissioned officers are given considerably more space than permitted by peacetime criteria, 109.1 as against 96.7 square feet. That is with that area at the end of the bunks.

Then for the typical bay, that is the cubicle with the typical bunks, at Memphis you have 95 square feet for NCO's which is 5 feet above peacetime design.

In addition to space analysis, the memorandum is devoted to the types of material used in construction and on page 2 of the statement we find:

> Generally the type of construction, materials, and finishes used are not extravagant and in conformance with general Bureau practice.

ANALYSIS OF SPACE ALLOCATION AT MEMPHIS

Now, for the purpose of illustrating to the committee the pains which the staff engineers have taken to arrive at a fair basis of comparison of the barracks of the three services, I would like next to hand to each Congressman the analysis sheet which we got up and distributed to the engineers of each of the services last fall, and have it printed in the record.

Mr. RILEY. It will be printed at this point.

(The document is as follows:)

NAVY, 1951, MEMPHIS, TENN., DATA SHEET ON BARRACKS

1. Location of unit and using agency: NAS, Memphis, Tenn.
2. Classification and description of construction: Permanent, concrete frame, flat roof, brick backed up with concrete block.
3. Date of construction contract and contract number: Bureau of Yards and Docks, contract NOy–27274, July 17, 1951.
4. Number of similar buildings: Two, five wings each.
5. Number of sleeping rooms per building: Eighteen EM dormitories, six NCO dormitories.
6. Gross area, outside dimensions (give breakdown in item 11): 139,674 square feet (1 building); 135,714 square feet (excluding arcades and vestibules).

7. Construction cost:[1] [2]

8 units	[3] $3, 007, 654
Change order (2 wings added)	[3] 596, 902
Total	3, 604, 556

[1] Construction cost includes all necessary services for barracks building—not possible to separate at 5-foot line.
[2] If job not yet completed, use latest estimate and so indicate (excluding Government costs, A & E costs, and utilities beyond a 5-foot line and including any Government furnished equipment except movable furniture.)
[3] 1 building $1,802,278.

8. Cost per square foot: $12.90; $13.30 excluding arcades and vestibules.
9. Rated capacity: 900 beds per building.
10. Cost per man based on rated capacity: $2,002.53.
11. Analysis of space:
Type: Permanent construction.
Where built: NAS, Memphis, Tenn.
Does barracks house heating boiler: No; central heating plant under mess hall.
Number of similar buildings: Two.

Type of space per building	Area (square feet)	
	Gross	Per man [1]
Sleeping rooms, including closets accessible from such rooms (enlisted men and noncommissioned officers' dormitories)	74, 068. 56	82. 30
Lounge space	13, 138. 80	14. 60
Toilets and janitors' closets	10, 663. 00	11. 85
Personal storage space	1, 246. 17	1. 38
Other storage space	830. 12	. 92
Corridors (arcades and vestibules)	13, 715. 88	15. 24
Laundry (scrub deck)	3, 588. 16	3. 99
Linen	939. 90	1. 04
Stairs (horizontal projection)	3, 677. 35	4. 09
Heating and mechanical equipment (basement)	533. 90	. 59
Mess and kitchen space (separate building)		
Administrative space (master at arms' office)	433. 40	. 48
Study room space	4, 900. 00	5. 44
Other space, specify (pipe space)	1, 155. 68	1. 28
Wall and partition space to balance with gross area given in item 6	10, 759. 98	11. 96
Total	139, 673. 90	155. 16

[1] Based on rated capacity.

12. Total basement area included in the above: 533.90.
NOTES.—All areas on this page to be computed on basis of inside dimensions: O. K. Exclude crawl space: O. K. Each sheet to contain only data applicable to a multiple of building of the same design under the same contract.

MEMPHIS BARRACKS

1. Floor areas above were accurately figured from outside dimensions and include all possible areas such as basements, outside stairs, covered arcade between units, vestibules, etc.

First floor	square feet	70, 370
Second floor	do	68, 770
Basement	do	534
Total (gross)	do	139, 674

Square foot area per man, 155.16.
2. Deducting the following to determine actual usable space:

Vestibules and arcades	square feet	3, 960
Basement	do	534
Walls and partitions	do	10, 760
Pipe space	do	1, 156
Total (unusable space)	do	16, 410

Leaves usable space, 123,264 square feet. Square foot area per man, 137.

3. Since study rooms are in addition to Bureau design criteria, this may be deducted in comparing floor area with Bureau design criteria.

Usable space	square feet	123, 264
Study rooms	do	4, 900
Total	do	118, 364

Equals 131.5 square feet per man.

4. *Sleeping rooms or dormitories.*—On attached data sheet the total area for dormitories is 82.3 square feet per man but includes dormitories for both enlisted men and noncommissioned officers alike and could be misinterpreted in comparison with Bureau design criteria of 72 square feet per enlisted man and 90 square feet per noncommissioned officer. This can be broken down as follows:

	Capacity	Area	Area per man
	Men	*Square feet*	*Square feet*
Enlisted men	792	62, 280	78. 6
Noncommissioned officers	108	11, 788	109. 1
Total	900	74, 068	82. 30

The ratio of noncommissioned officers to enlisted men is Memphis, 108 noncommissioned officers to 792 enlisted men; Bureau design criteria, 12 noncommissioned officers to 88 enlisted men which is 1 to 7.3, same as for Bureau design criteria. The above area per man seems excessive but when a typical bay of dormitories is analyzed some of this space is used as corridor.

Enlisted men equals 20 by 28 feet equals 560 square feet for 8 men equals 70 square feet per man.

Noncommissioned officers equals 13 feet 8 inches by 28 feet equals 382 square feet for 4 men equals 95 square feet per man.

The above figures show that actual area per man is nearly in keeping with directives.

5. Plumbing fixtures are provided in the following ratio:

Fixtures	Total number	Memphis		Bureau design criteria	
		Normal 900	Emergency 1350	Normal	Emergency
Lavoratories	214	1 for 4.2	6. 3	1 to 5	1 to 7.
Water closets	124	1 for 7.3	10. 9	1 to 10	1 to 12.
Showers	111	1 for 8.1	12. 2	1 to 15	1 to 15.
Urinals	107	1 for 8.4	12. 6	1 to 20	1 to 20.

6. Connecting passageways are less than usually provided in Bureau design criteria.

Memphis (7 feet wide), 4,368 square feet (900 men) equals 4.85 square feet per man.

Bureau design criteria (11 feet wide) (50 feet between wings), 550 square feet (100 men) equals 5.5 square feet per man.

Mr. DONNELLY. Admiral, there is no misunderstanding as to the items that go into this standard sheet. This was gotten up by your office, and this particular one relates to Memphis itself.

Now, on page 2 you can see the important item:

Sleeping rooms (including closets accessible from such rooms) (enlisted men and NCO dormitories), 82.30 per man.

The Air Force in their contemplated barracks have reduced them to 72 square feet which they feel conforms to the Munitions Board directive.

LIMITATION ON AREA OF HOUSING FOR SERVICE PERSONNEL AND THEIR FAMILIES

Then you can see how carefully we have broken down every bit of space separate from the sleeping space, and at Memphis the total per man breaks down to 155.16 square feet. The reason the committee staff has devoted so much time and attention to this matter of gross area—gross overall area—is that Congress in 1948 was confronted with a problem in the matter of the construction of housing for personnel. And Congress prescribed a per square foot limitation by proviso in the appropriation act—Public Law 626, Eightieth Congress—of 1,080 feet for enlisted men, and defined what is meant by the area. I have heard in the course of our own study that the technical service, such as Yards and Docks, welcome a statute prescribing an affirmative limitation with respect to space, such as has been done here for housing.

Admiral JELLEY. Can I comment on that?

I would like to amplify that with regard to family housing. That originally came up in an authorization bill. As I recall, it was a section in a 1948 authorization bill. It prescribed the number of square feet for the flag officer which, I think, was 2,000 or 2,200. Then square feet for captains, commanders, and so on down. In the appropriation act a proviso was added, limiting for that particular act houses to be no larger than 1,080 feet. But the basic legislation was Public Law 626 of the Eightieth Congress which has just been handed me. It is still in force except as modified by each appropriation act. The last of them kept us to 1,080 feet which was what is allowed for enlisted men.

Mr. RILEY. We will insert the language from Public Law 626 at this point.

(The excerpt is as follows:)

Provided further, That no money from current or future appropriations for the Army or the Air Force shall be expended for the construction of family quarters for personnel of the Army or the Air Force of greater net floor area in square feet per unit than the following:

For enlisted men, one thousand and eighty.

For warrant officers, flight officers, and commissioned officers of and below the rank of captain, one thousand two hundred and fifty.

For majors and lieutenant colonels, one thousand four hundred.

For colonels, one thousand six hundred and seventy.

For general officers, two thousand one hundred.

For the purposes of this Act, net floor area is defined as the space inside the exterior walls, excluding basement (or service space in lieu of basement), attic, garage, and porches: *Provided*, That these areas may be increased not to exceed 10 per centum at activities outside the continental United States, and not to exceed 10 per centum for quarters of commanding officers of stations, bases, or installations based on the normal rank of such officers: *Provided further*, That quarters for civilians shall be limited to conform to the allowances for officers or men of comparable status according to responsibility, rating, and pay as determined by the Secretary of the Army or the Secretary of the Air Force to be appropriate: *Provided further*, That no family quarters for personnel of the Army or the Air Force shall be constructed with the funds authorized for appropriation herein in excess of a net floor area of one thousand and eighty square feet per unit.

Mr. DONNELLY. Has that limitation not been beneficial to such services as your own?

Admiral JELLEY. I cannot say it has, because we have only built a handful of quarters since then. We have had some quarters overseas on Guam but I do not think we have had enough experience under the act to comment.

Mr. PATTERSON. The committee requested that we look at that type of housing for the services. It does make a small house for the senior officers.

Mr. DONNELLY. The senior officer is given more than 1,080 feet.

Mr. PATTERSON. No, sir. You did in the basic legislation.

POSSIBLE LIMITATION ON BARRACKS AREA

Admiral JELLEY. I will say this, I think it is more logical to limit it on a square foot basis. A previous limitation was on the dollar valuation—about $12,500. That dropped down to $10,000. It tended to stay constant over the years but costs rose. I think it is better to limit us to square foot basis rather than a dollar basis. If we are obliged to limit barracks as to size I think it should be on a square foot basis rather than on a dollar basis since building costs go up and down. As to whether it is practical to write such a limitation for barracks, I would like to think about that further.

You will notice that there are exceptions. Areas may be increased not to exceed 10 percent for activities outside continental United States. Porches are not included and things like that. I am not prepared without study to recommend we have 155 or 130 or 120 feet for barracks in Boston or barracks in Key West. I think in Key West they ought to be larger. It would be harder to write one to cover the whole country without including some sort of climatic clause.

Another point, these barracks at Memphis are for a special purpose. They are for students assigned to this technical training school. They are students of rather high IQ qualifying for machinists' ratings, electronics, and so forth. They come for 4 or 5 months and undergo an intensive course of study. Yet we build barracks also at a shipyard for boat crews that run the boats around the harbor. Offhand, I am not prepared to say that the people in these boat crews should get the same number of square feet as these students. The fellow in the boat crew may stay 2 years—the student 3 to 6 months. I think if the committee decided that they wanted to be strict and limit what the men should have, we could come up with something. But I would not want to see the figure 100 or 150 square feet without qualification.

Mr. DONNELLY. Would you want to make any comment on the figures here? They are based on 120 square feet per man?

Admiral JELLEY. I am struck by the fact that we do not seem to have much of a variation there. After your discussion I felt that perhaps we were remiss in not defining our criteria on a square-foot basis. We limited our dormitory spaces but not the washrooms, stairs and so on. In distributing it to the field you might expect them to come up with all kinds of areas but in spite of the fact that we did not give them a set of square-foot figures, we varied from 132, 136, and 134. Memphis came up to 138 but I think that is on account of study rooms. Miramar was 146. The Army has 145, 212, 229, 121, 165. There does not seem to be any common denominator there. The Air Force does not vary quite as much but once again they seem to run to 165 and 168. I am surprised that in spite of our omission to set the number of square feet for washrooms and stairways

that we should come out so close. I think it is an indication that we could come up with an over-all square foot basis for the field but whether 120 or 140, I am not prepared to state offhand.

Mr. DONNELLY. In a few minutes I will show the committee the Army and Air Force breakdown. They came up with 120—148 feet at Memphis might include study space. You see here the breakdown adds to 155.16. That is more than 148. We deleted the study space to have a fair basis of comparison.

EXCESSIVE CONSTRUCTION FEATURES AT MEMPHIS

Now, on this same thing that the committee is looking at, if you will turn to the next page you will find a memorandum on the Memphis barracks. This was also prepared by the Bureau of Yards and Docks and you get in No. 1 paragraph the area, 155.16 square feet. That is from the gross outside dimensions of the building. In paragraph No. 2 the Bureau has deducted the vestibules and arcades, and so forth, and that brings us to 137 square feet.

In paragraph 3, knocking out the study rooms and usable space, we come up with 131.5 square feet per man. And again the figure here is based on exterior dimensions. In paragraph 3, the Bureau breaks down the figures further to account for the Bureau design criteria of 72 square feet per man, and on the top of page 4, the next page, we get into 82.30 square feet per enlisted man. And the Bureau points out that the ratio of one noncommissioned officer to enlisted men is the same as the Bureau design criteria of 1 to 7.3.

Then we get down a little further to the plumbing fixtures. These are expensive. We find in paragraph 5 a comparison of the plumbing fixtures at Memphis with those permitted by the design criteria and we go down the list to lavatories. They are a shade under 4.2 men per one lavatory or washstand. Then the next one: water closets, toilets, 7.3 men to 1 which is under the 10 to 1 in the standard criteria.

In showers it is 8.1 men to 1 and in the peacetime criteria it is 15 men to one shower. One urinal for 8.4 men and the standard is 1 to 20 men.

So much for statistics at Memphis. I would like, Admiral, with your indulgence, to acquaint the committee members with the types of materials which have gone into the Memphis barracks or are going into them. So far, we have been talking about space outlay. Now let us look at it from the standpoint of costly materials and frills.

LOUNGE AREA AND STUDY SPACE AT MEMPHIS

Mr. FURCOLO. May I ask one question? I do not quite understand. It is on this material data, page 2, under the column "Per man" for example, "Lounge space, 14.60" per man. I do not understand whether that is based on the number of feet per man based on the total capacity of 900 or whatever it may be, or on what the Navy says the number of men using the lounge should be at any one time.

Admiral JELLEY. It is based on 900 men. The area 13,138.80 square feet is the total for enlisted men and noncommissioned officers. It is the total lounge space and you divide by 900 to get 14.60.

Mr. FURCOLO. Not that I want you to give it to me at this time. Have you had any sort of studies made or any information that would

indicate where there are 900 men on the base, in normal course how many would be in the lounge at any one time? So, as a practical matter this 14.60 square feet per man might be 100, 200, or 300 square feet per man.

Mr. SULLIVAN. I do not think you would ever have 100 percent at one time.

Admiral JELLEY. I do not think you would. Do we have any actual data, Mr. Sullivan?

Mr. SULLIVAN. No. It could possibly be 100 percent filled, or it could be entirely vacant at times.

Mr. DONNELLY. The lounge space is solely for the benefit of the noncommissioned officers.

Mr. SULLIVAN. Yes. Both the lounge and sleeping quarters. The day room is for both enlisted men and noncommissioned officers.

Mr. DONNELLY. I have looked at the plans and my recollection may be different from yours. At Memphis isn't that lounge space exclusively for petty officers, and there is no lounge space for enlisted men?

Admiral JELLEY. On the lower floor we have a day room that is lounge space for enlisted men. Upstairs we have noncommissioned officers' dormitory and a small lounge or living room, but in this tabulation——

Mr. DONNELLY. That is over-all.

Admiral JELLEY. There was no distinction made.

Mr. FURCOLO. The only other question I have on this was regarding study work space which comes to 5.44 per man. I am curious to know whether that is some space restricted for study or do you say he uses the bunk?

Admiral JELLEY. That was a large room, as I recall—what was actually furnished at Memphis?

Mr. SULLIVAN. It was a day room or living space and they also had one room for study.

Mr. FURCOLO. Would it be as separate as a library?

Mr. SULLIVAN. Yes. They need it for home work.

Admiral JELLEY. Probably some of them would study in their bunks.

Mr. DONNELLY. This study space is in addition to the classroom.

Mr. SULLIVAN. Yes, and recreation space.

ARCHITECTURAL RENDERINGS ON MEMPHIS PROJECT

Mr. DONNELLY. I think the best way to invite the committee's attention to the type of materials going into Memphis is to display the architectural renderings. This one was drawn by the architecture engineer, Wyatt C. Hedrick, who drew the plans and the specifications. These were rendered in the regular course of his business. It is part of his regular work.

BRICK DRYING WALLS AT MEMPHIS

Mr. DONNELLY. The committee will note walls provided here between the wings in the back. There are five wings on each side. The plans and specifications show that these are drying walls and not used to retain anything. They are faced on each side with brick

and have a special coping of about 8 inches on the top. I inquired of the Yard and Docks people for the purpose and I understand that when clothes are being put out, the drying walls would hinder bystanders from looking on the clothes.

Do you regard these walls as frills or necessities?

Admiral JELLEY. Inasmuch as they are obviously intended to make the place look neater and serve no essential purpose I can only say that they do not fill an essential purpose. Whether you can call it a frill or not—I suppose the answer is yes. It is not necessary to the functioning of the barracks. The clothes will dry as well without the wall.

Mr. DONNELLY. I have the linear dimension of these walls in the aggregate—720 linear feet between the various wings that the committee members see here. Could you give us an idea of the cost per linear foot of this wall?

Admiral JELLEY. How high did you say the wall was?

Mr. DONNELLY. Five feet high; 10-inch concrete footing; 4-inch concrete block, faced on each side with 2-inch brick and an 8½-inch pre-cast concrete coping on the top.

Mr. SULLIVAN. The brick would cost about $36 per thousand, and you would have to estimate it on a per-running-foot basis.

Admiral JELLEY. I have been dealing with paper so long that I may be a long way out on my estimates.

Mr. DONNELLY. I think, if someone had some idea of the cost per linear foot, we can estimate how much could be saved.

Mr. RILEY. You could put the estimated figure in and correct it later on, Mr. Sullivan.

Admiral JELLEY. I would guess $15,000.

Twenty dollars a foot sounds right. It may be a little higher.

Mr. DONNELLY. The committee staff has approached the thing this way. We do not want to exercise engineering judgment. We do not know prices paid by the Navy, and we do not want to get into that.

Admiral JELLEY. Suppose I say $10,000 for the record, and then we will check.

FRILLS HAVE NOT BEEN DELETED ON MEMPHIS JOB

Mr. DONNELLY. Have any deductive change orders been issued on this Memphis job to eliminate such things as this drying wall since construction was started last August?

Admiral JELLEY. Mr. Glenn is project manager and knows the details.

No deductive change orders have been made to eliminate things like this wall or anything in the way of uneconomical practices. There undoubtedly have been some change orders.

Mr. GLENN. We have had a different type of brick.

Mr. DONNELLY. The change order you speak of, Mr. Glenn, was that the contractor specified the type of face brick he was going to use and the Navy approved it.

EXPENSIVE WINDOWS IN BARRACKS AT MEMPHIS

Now, obviously, men being students are entitled to have ample window area, but I invite the committee members' attention to this: The windows here are about the most expensive window that could

possibly be bought. This is a type of window used in monumental buildings, in hospitals and courthouses, the Truscon Donovan awning-type window. It has a steel frame with several ventilating glass panels, and the manufacturer has told us that these windows cost two to three times more than the steel casement windows equally satisfactory for the purpose.

I have here a metal casement window which the manufacturer says would cost about $18 apiece, and you can see it is used on a hospital here—a double-hung window with a ventilating panel.

Now, Admiral, have the windows been installed in these Memphis barracks at this time?

Admiral JELLEY. I do not know. But, from the length of time the contract has been awarded, I would say they should have been fabricated.

Mr. DONNELLY. If steel is a scarce item, can you tell us whether double-hung wood windows would serve the purpose just as well?

Admiral JELLEY. I would rather have Mr. Sullivan answer that. Not in that type of construction. You would have to have interior——

Mr. DONNELLY. Couldn't you use a standard millwork window?

Mr. SULLIVAN. They probably used awning-type windows for ventilation because of the climate. They probably went to a better-grade window. Even in wood windows we do not go to the cheapest grade. We do not use 1⅜-inch-thick sash. We use 1¾-inch-thick because of the over-all maintenance. I do not doubt they could have gotten a cheaper grade window but not an $18 window like you are speaking of.

Mr. DONNELLY. The manufacturer told us that this window, the double-hung metal sash with ventilating panel, would sell for $18.

Mr. SULLIVAN. They are not small windows in the sense that we use them in a home. If I remember, they are 7 or 8 feet high. In homes they are around 4 feet 6 inches high.

DECENTRALIZATION OF PLANNING RESPONSIBILITY IN BUREAU OF YARDS AND DOCKS

Admiral JELLEY. I wonder if I could make a statement here. Listening to Mr. Sullivan say, "I assume this and assume that," I should point out that our whole system of operation, that we have followed for many years, devolves on two main points. In the first place, we have delegated the authority for the design to the district officer in Charleston who, in turn has made the local public-works officer at Memphis his representative on this particular job.

In that way the officer who is responsible for maintaining the buildings and operating them also has his finger on the design. Next is our policy to select an architect who has knowledge of local conditions—a man who knows the peculiar problems that Memphis may have in the way of climate—whether you need a full-opening window or not and what protection you need for rain or corrosion.

When this architect got the job, the first thing he had to do was to learn the use of the barracks. These barracks are being used for students. Undoubtedly he has taken that into consideration because he has put in study rooms. There may be other features of the design that flow from the fact that there are students requiring special conditions that an ordinary enlisted man would not need.

Then the architect with his knowledge of local conditions is going to look at the local market. Undoubtedly he will pick up a Truscon catalog to find something that looks suitable. He may have considered double-hung wood sash or casement windows or double-hung mill sash before he took out this awning type.

The reason we hired him was because we wanted him to study the problems and come up with the best design. We cannot sit and guess here.

Mr. Sullivan has called the window an awning window. If you want actual information on that, we would have to get the men who made the analysis. I cannot think of anything more valuable to our local officers to realize that a committee such as this is asking questions such as these. He may have made a mistake on the roofs and the drying walls, but when the word gets around that the design officer at Memphis and the architect—those are the fellows actually working on the drawing boards—had to come to Washington and explain why they put in a brick wall and used awning sash, others will sit up and take notice. I certainly would recommend that for questions of this type it would be better to get these people in and have them justify their actions.

Mr. DONNELLY. I think, Admiral, we have been fair and more than fair. We have indicated to the liaison officer in the past 2 or 3 weeks that this type of question would be asked, and we sat down and talked about many of these things. He has reviewed this list that I have here and the questions on it which I expect to ask with the committee's indulgence.

Admiral JELLEY. When did he get a chance to see it?

Mr. DONNELLY. I had it written on Friday of last week.

Admiral JELLEY. This is Monday.

Mr. DONNELLY. The list was no more than a crystallization of the many discussions he and I have had.

You spoke of two things a while ago. If this construction at Memphis is not a peacetime operation and design, why should this type of construction be so much more costly in the aggregate than the type of construction that Admiral Sherman prescribed?

What is the difference in durability between a steel sash and a wood sash for the windows at Memphis?

Mr. SULLIVAN. They may have been more readily available.

Admiral JELLEY. There was no dollar tag on Admiral Sherman's directive, as I got the picture. Mr. Mahon brought out the idea that where these structures were for permanent needs we should also consider maintenance costs over the years. This is the only permanent training station for developing technicians, and it justifies a permanent-type construction that would be cheap in maintenance over the years. Should we use double-hung steel sash or projected steel sash? I think both would have an advantage over wood on permanent construction.

If these sash cost the same to maintain and the same to operate over the years, we should use the one that is cheaper in first cost. A temporary-type wooden sash would not be justified.

Mr. RILEY. Off the record.

(Discussion off the record.)

Mr. FURCOLO. On the record.

RESPONSIBILITY FOR PLANNING DECENTRALIZED, WITH SPOT CHECKS ONLY IN WASHINGTON

Admiral, I wanted to ask you this. I can see the validity of the point you make when you folks yourselves did not do this, that it might be a little bit more practical to get us people sitting opposite us who did. I can see it would be helpful to the contractor to keep him on his toes. But I would like to inquire, and it seems to me pertinent, you do not intimate by a statement like that that the man who was doing the job was given free rein? That nobody sits down with him from your department to ask him such questions as we have been asking you? Someone along the line—someone in the Navy Department or your department—should be asking this man as the Congress asks you. I do not want to be misled by your remark that it might be helpful if that contractor came up and we asked him these questions. Surely someone must have got after him while he was doing this, or afterward?

Admiral JELLEY. Not in the Department. If we were going to review every one of these projects before construction actually started or bids were taken, we would have to have a tremendous number of people in Washington. We do make checks in Washington on a spot-check basis. A few weeks ago we had the people up from Albany, Ga., where we are building a supply depot. Our people spent all one Saturday going over the plans in detail, and the specification section checked the specifications.

Mr. FURCOLO. That is a spot check on the Washington level.

Admiral JELLEY. Yes. In the district there is a detailed check made. Captain Hunter, my deputy, was talking to Captain Eckberg, whom Mr. Donnelly mentioned this morning. They discussed advancing the time on bid opening on a job, and Eckberg said, "If I do that, that will not give us the chance to review the specifications. I feel we must have that time." So we said leave the bid opening as it was. It is the district's responsibility to make that check.

In addition, the staff design officer is working day by day with the architect-engineers settling questions. Undoubtedly these brick walls that you mention to screen the clothes drying up came up from the staff. I do not think the architect would have thought of that. I think that came from the staff at Memphis.

Mr. FURCOLO. Then back in the district or locality where this was to be done the architect or private contractor would submit his plans, and someone in the Navy would sit down and be asking the contractor questions similar to what counsel has been asking here?

Admiral JELLEY. That is right.

Mr. FURCOLO. And then I assume that, if your district man had some of the ideas that we on this side of the table have, he would have sent it to Washington?

Admiral JELLEY. I think he would have made the change then and there. He would have told the architect, "Take out the awning sash and put in double-hung sash." He has full authority to do that.

Mr. FURCOLO. If it gets by him, then this committee would be justified in assuming either it was the best kind of material——

Admiral JELLEY. Or someone had a warehouse full of that on hand.

Mr. FURCOLO. Or that that Navy man approved of this, as indicated by the fact that he had not stopped it or sent in an explanation.

Admiral JELLEY. That's right.

Mr. FURCOLO. But do I understand correctly there is a check on every one of these things in the district and then on the Washington level?

Admiral JELLEY. Yes. On a spot basis in Washington. For example, at Albany the architect had specified aluminum gravel stop on the storehouse roof. We directed them to use a sheet-metal gravel stop. Whether we would have caught the brick drying walls I do not know.

Mr. FURCOLO. Apparently, whatever the reasons may be, Captain Eckberg or someone in his department has gone along with this?

Admiral JELLEY. Yes.

Mr. DONNELLY. The committee staff has understood that this Memphis situation is only the beginning of other similar barracks to be constructed. I cannot put my finger on the source of that information, but I understand this is what the Navy has in mind.

FUTURE PLANNING FOR NAVY BARRACKS

Admiral JELLEY. No, sir. I think what you have in mind—and this may change the subject—we were designing the Oceana barracks as a prototype. We have quite a few barracks on the master jet fields and for air stations. We are designing the Oceana barracks as a prototype, and the other barracks will be along the same lines.

The committee has been concerned about our barracks construction, and we have been estimating about $2,000 per man and $1,800 per man. I have been concerned to find out why the Air Force can build a barracks cheaper per man than we can. We have been doing quite a bit of studying to see what is wrong with our system because we have dormitory-type barracks with few partitions and the Air Force has individual rooms. Ours should be cheaper. That was reflected in your figures where our cost per square foot is higher than the Army or the Air Force cost per square foot.

It goes back to 1947 or 1948 where we came up with this criterion that Mr. Donnelly has shown you on 100-man barracks unit. We came up with that after conversations with the Bureau of Personnel, Bureau of Medicine and Surgery, and the Army engineers. We agreed that the ideal barracks would be two stories high and 100-man capacity. It met organizational requirements at an air station if a squadron came in—44 men per dormitory and 8 NCO's. It fitted the squadron organization as well as the platoon and company organization.

You could have 100-man barracks or 1,000-man barracks. It would be easily adaptable to contours. You could step these down a hillside. It was easily expanded if at a future date you needed more. It was flexible for orientation. You could face it east or west according to the prevailing wind. We have been building relatively small units—two-story, 100-man buildings.

Mr. DONNELLY. Nine hundred men in this group here at Memphis.

Admiral JELLEY. Yes; 900 men on the side, 1,800 altogether. Now, the Air Force instead of building this small two-story building is building a larger three-story building—200-man capacity. They build one 200-man building. We have to build two two-story buildings to get the same capacity. On the face of it, they have less

roof, less foundation, less utilities. So back in the days when we were thinking of small units I think our idea was good.

In master jet fields we are thinking of barracks for 1,000 or 1,200 men. So, we have stopped the design work at Oceana on these 100-man units and are considering going to a three-story building—150-man barracks instead of 100. We may make it a 200- or 300-man barracks. That will bring our cost per square foot in line with the other services.

In that connection I want our people to drag their feet a little to see if we should not have a square foot limitation in addition to the square feet for dormitories. We are going to take advantage of that in the master jet fields.

I have an estimate here that on our two-story barracks the average is about $1,910 per man; and few three-story, the average is about $1,407 per man. So you can see the substantial savings that can be made by increasing the size of the buildings. We are going to take steps to build larger buildings.

STATUS OF CONSTRUCTION OF MEMPHIS BARRACKS

Mr. DONNELLY. Do you plan to build any more barracks like Memphis?

Admiral JELLEY. Not unless we had a similar mission. If we had a training station for these technical rates we might follow that. I know of none in the program.

Mr. DONNELLY. What is the present status of construction of the Memphis barracks?

Admiral JELLEY. Mr. Glenn, can you say?

Mr. DONNELLY. Mr. Glenn is the project manager and you can tell the present state of construction?

Mr. GLENN. I asked them to send in progress photographs, and they have not sent them in.

Mr. DONNELLY. That was a week ago?

Mr. GLENN. They sent plans.

Mr. DONNELLY. Admiral, a little while ago in discussing this subject of houses you indicated that the dollar limitation was not as satisfactory as a square foot linitation. When you speak of your prototype barracks at Oceana would it be better to approach it from a minimum square foot per man basis? Wouldn't that bring down costs?

Admiral JELLEY. Incidentally it would bring them down. However, if you reduce us from 100 square feet to 80 square feet per man you would not get a 20-percent reduction in cost. You might get a 10-percent reduction. In a change from two to three stories you would have a substantial saving.

Mr. DONNELLY. There would be a saving in floor area but not as much saving outside?

Admiral JELLEY. A combination of the two would result in a maximum saving.

CLOSED SPECIFICATIONS ARE OBJECTIONABLE

Mr. DONNELLY. Admiral, going back, if I may, I have done considerable study in the matter of closed specifications written by

the services in procurement and construction and I find on the plans for the Memphis job, and I am looking at drawing 504,979, you have this note:

Windows to be Truscon Donovan awning type steel windows or equal. Windows to be manually operated—all operating units to have metal screens

Can you tell the committee whether that type of specification would amount to a closed specification?

Admiral JELLEY. No, because of the use of the words "or equal." Personally, I do not like to see descriptions like that used. It has been a good many years since I have had to deal with steel sash but as I recall a trade association of sash manufacturers had a standard nomenclature. The greatest trouble our design force have in working with architect-engineers is in weeding out descriptions like that. It is typical of private work to use the words "or equal." And my experience is you have to watch that closer than anything else. While the use of the words "or equal" theoretically leaves it open to anyone else, the contractor knows that if he puts in Truscon sash he will not have trouble with the inspector whereas if he puts in another sash he has to prove it is as good as Truscon sash.

Mr. DONNELLY. That identifies this window as made by this manufacturer?

Admiral JELLEY. Yes.

Mr. DONNELLY. Your statement is interesting. I will get for the benefit of the Congressmen the hearings held in October 1949 by one of the House Judiciary subcommittes on the matter of specifications. My recollection is that an admiral testified that the words "or equal" should not be used because they discouraged bidding even though they do not eliminate any products but those of one manufacturer, and I think I should put that in here, Mr. Chairman.

Mr. RILEY. The excerpt from that hearing will be inserted at this point.

(The excerpt is as follows:)

[Excerpts [1] from hearings before the Subcommittee on Study of Monopoly Power of the Committee on the Judiciary, House of Representatives, Eighty-first Congress, First Session, October 25, 1949]

Mr. BERNHARDT. Do you often accept as a standard specification something which can only be produced by one particular manufacturing firm due to certain controlling features that that company might have?

Admiral BOYLE. Certainly, as far as the Navy is concerned, we try to avoid ever doing that. It might be necessary at times, obviously, but we try to avoid it

Mr. COYLE. How fast are you getting away from the words "or equal"?

Admiral BOYLE. Every time we can write something like this in here we are away from the words "or equal." We still find it necessary to use that phrase. A case came to my attention in the last few days, in which we were buying jeweler's tools. We have no standards in the United States for them, apparently—at least, so far as I can see right now. We have mentioned a certain manufacturer's name and "or equal." Our problem will be to try to get the American industry to bring its quality up to the point where we can specify the various and sundry jeweler's tools which, between the three services, we use in quite a quantity. But we are not away from it in the Navy a hundred percent, I must confess. We try to get away from it wherever it is possible.

Mr. BERNHARDT. What is the objection to "or equal"?

[1] C. Murray Bernhardt, general counsel to subcommittee; David C. Coyle, consultant to subcommittee; Rear Adm. Morton L. Ring, Director for Military Supply Staff, Munitions Board; Brig. Gen. A. A. Kessler, Director of Procurement and Industrial Planning, Headquarters, Air Force; Rear Adm. James D. Boyle, Assistant Chief and Director, Procurement Policy Division, Office of Navy Material, Department of the Navy.

Admiral BOYLE. Well, what does "or equal" mean? That is the main objection to it.

General KESSLER. We mean "equal in performance"; that is the criterion used by the Air Force, equal in performance.

Admiral RING. And yet it could mean equal in the chemicals and physical components, properties of the particular article. It depends on what you are buying, I think. "Or equal" gives to competing bidders the rather unhappy feeling, I think, that you are really after the product of John Jones Co. because you mention his name, and that everyone else is faced with an insurmountable hurdle. That is not, of necessity, true, but it is much better to have a specification which stands on its own feet and gets away from specifying a particular manufacturer's product "or equal."

NAVY SUPERVISION OF WORK AT MEMPHIS

Mr. DONNELLY. Off the record.

(Discussion off the record.)

Mr. DAVIS. As long as there is such a report in existence that would be readily accessible to you, Mr. Glenn, would you be willing to bring the latest report on this project along so we can see the nature of the report.

Mr. GLENN. Yes.

Mr. DAVIS. What on-the-spot supervision is the Navy maintaining on this project?

Admiral JELLEY. I am going to have to guess at Memphis because I do not know the exact figures. We would employ under civil service, inspectors, construction engineers and so on who maintain a daily inspection of the contractor's work. How many there are at Memphis I do not know but there are employees whose only job is to watch this construction, probably a concrete inspector, electrical inspector, mechanical inspector, steel inspector, and so on. Our responsibility to get money and ceiling to the officer in charge in time to hire the men and pay them; and he is responsible to put in his request to us to show whether he needs 10 men or 5 men and so forth. He undoubtedly had some men on hand to start with and had to increase his force to take care of the extra work going on at Memphis.

LAG IN APPLYING AUSTERITY DIRECTIVE TO NAVY DESIGN

Mr. DAVIS. I cannot help but feel a little bit surprised that after the directive from high naval authority with respect to austerity of construction, if that is a good word, that it is not until this date a year later that serious consideration is now being given to the revision of the design for some of these projects.

Admiral JELLEY. Well, frankly, I do not think we recognized that as austerity. For 5 or 6 years this has been the standard barracks. I do not think we realized until we compared it with the Air Force barracks that we did have an opportunity to build barracks cheaper per man.

Mr. DAVIS. I was not thinking only, Admiral, of the need you specifically mention, using three stories instead of two, but the things that counsel has spoken of as being frills, whether drying fences or whatever they might be. It does appear that there has been a lag of several months in actually getting down to cases in doing something about the directive that came out in January 1951. Wasn't that the date?

Mr. DONNELLY. Yes.

Mr. RILEY. Admiral, they have a resident engineer at Memphis and I take it it is his duty to cover the inspection of the work done by the contractor to see these specifications are met. Does he have any authority where he sees money might be saved to the Government to recommend certain changes to the district engineers?

Admiral JELLEY. Yes. I would say he has that authority. Whether he would do it in face of the plans and specifications I do not know. If he saw something that was unworkable he would not hesitate to recommend it. I doubt whether he would recommend to leave out the brick walls, for example. I doubt that he would originate such a recommendation.

Mr. DAVIS. The contract has been let and his responsibility is to see he lives up to the specifications.

Admiral JELLEY. That is his prime responsibility.

Mr. DAVIS. It is too late for him when he sees too expensive a material being used. If he is a good man he will recommend to you that on the next project this cheaper thing will be used but this other is over the dam.

Admiral JELLEY. It is too late. I would say it would be very unusual to recommend any change in plans and specifications for the purpose you mention. If the contractor says we can't get this material and can't get that, then he would recommend a change in plans and specifications. It is theoretically possible until individual parts of a building are started to recommend a change in those parts.

NAVY HAS RIGHT TO DECREASE CONTRACT BY CHANGE ORDERS

Mr. DONNELLY. Carrying out Congressman Davis' thoughts, the resident officer has full authority under the directive to require deductive change orders?

Admiral JELLEY. The District Public Works officer would be the one. The resident officer would not be the contracting officer, but he would have authority to make recommendations.

Mr. DONNELLY. In this case Captain Eckberg would have authority. It is not too late now to change things at Memphis.

Admiral JELLEY. That is right, until the work actually starts. If the contractor has ordered his material or dug a hole in the ground you will not save much money. In the case of work that goes in last, it might still be possible to make changes.

Mr. RILEY. In your contracts with private contractors do you have a percentage of modifications or changes you can make or is it an iron-bound contract in keeping with the specifications?

Admiral JELLEY. There is nothing iron-bound about it. We have unlimited opportunity to amend by change orders. We have found from experience, I believe, that the average is about 16 percent increase.

I do not believe it applies now under the present procurement regulations which have been relaxed but in normal time we could not add another building to that contract. The Comptroller General considers that a change of scope and he does not permit that. If we had specified 40-foot piles under that building and when they were driving it was found that 30-foot or 50-foot piles were needed that would be a change order and within the scope because the original

building had to have pile foundations. Sometimes you run into quick sand or a soft spot you did not expect and that might lead to a change order.

Mr. RILEY. That is one of the things I had in mind. Certain local conditions have to be met. Most private contractors, if you come to something like that, will charge you.

Admiral JELLEY. You do not make money on change orders. The contractor does. You lose the element of competitive bidding because the contractor is the only one who can do the work and he becomes too conservative in estimating the costs on changed work. For that reason I think our officers soon learn that the fewer change orders the better.

EQUITABLE ADJUSTMENT IN THE CASE OF CHANGE ORDERS

Mr. RILEY. What I have in mind is this sash. If he has not already ordered them and he could get other sash of similar size to fit these openings, is it within your jurisdiction to make the change and get less expensive sash?

Admiral JELLEY. It would be within our jurisdiction, but what kind of an agreement on costs we could come to, I do not know. As a general rule it would not be nearly as much as if we had done it before the bids were put in.

Mr. DONNELLY. I have had considerable experience in construction litigation where I have represented the contractors, and I am surprised to hear this testimony on the other side of the table. The contractor as a rule, where these contracts are let after advertising and competitive bidding, is subject to deletions of work that may be ordered by the Government, and there is a contractual provision for equitable adjustment of the contract amount. In other words, the Government deletes portions of the work and decreases the contract amount accordingly, in an equitable manner. If the contractor is dissatisfied, he has a right of administrative appeal only, and has no right to sue in the courts. In the Supreme Court of the United States it has been held that the contracting officer's—that is, the Government officer's—decision on the facts is final, and further that his interpretation of the contract in applying it to the facts is likewise final, even though the latter determination is one of law.

Mr. KATZ. That decision is only about 2 months old.

Mr. DONNELLY. Justice Black wrote one several years ago.

Mr. PATTERSON. The Moorman case.

(NOTE.—The decision referred to is *United States* v. *Moorman* (338 U. S. 457, 70 S. Ct. 288 (1950). Mr. Katz is referring to *United States* v. *Wunderlich* (72 S. Ct. 154, decided November 26, 1951).)

Admiral JELLEY. Do you know of any times when we have been sued for change order?

Mr. KATZ. I do not think we average two suits a year, and then always on a two-by-four contract.

Mr. DONNELLY. Well, the fact that you have so few suits bears out the point. The man doing the work has to do business with the contracting officers; and, if the officer sees fit to eliminate parts of the work, it must be settled by an equitable adjustment. We will go into some of this later in these hearings. In the Sixth Naval District, steel mesh was eliminated in the runways on jet fields.

Mr. KATZ. But if we eliminate any work we must pay the contractor for the efforts he has made and the material he has purchased.

Mr. DONNELLY. An equitable adjustment.

OTHER DETAILS OF MEMPHIS BARRACKS

Getting back to this drawing of the Memphis barracks, we find that the sidewalks in the interior courts have reinforced-concrete roofs supported by iron columns with built-in lighting. I wonder, Admiral, if you would regard that as a frill?

Admiral JELLEY. It is not going to cost much to keep up, if cover is necessary.

Mr. DONNELLY. Is it necessary?

Admiral JELLEY. I do not know. That depends on Memphis. I am sorry my experience at Memphis is limited to about half a dozen stops between planes. I have been in places where you would want to cover over walkways.

Mr. DONNELLY. That gets us to the Navy's 1948 design criteria, which permit coverings for the walks. Of course, the question is the effect of Admiral Sherman's 1951 directive on austerity.

Let me go to the roof terraces, which require insulation of the roof for the benefit of the room below. The terraces are laid with quarry tile, and they each have 50 to 60 feet of iron railing around them. Do you regard them as a frill?

Admiral JELLEY. Assuming the purpose is recreation, it would be a frill. But I am just guessing.

Mr. DONNELLY. I have examined the plans carefully, and our engineers have. It appears to be a frill. Is there any other answer?

Mr. SULLIVAN. Could I explain the purpose of the walk? In our basic design criteria we specify connecting corridors from barracks wings to the mess hall. If you did not have these connecting walks at Memphis, every one of the dormitories and the day rooms would become a corridor or a thoroughfare. It is in essence an outside corridor, if you look at the plans of the building.

Admiral JELLEY. I do not think the objection is to the walk. It is to the roof.

Mr. DONNELLY. The architect apparently embodied in this plan what Mr. Sullivan suggests. He could have provided interior corridors, I understand, about 3 feet wide, which would have been ample and done away with this necessity of a roof on the outside over the sidewalks. But the architect has gone all out in building a very fine structure.

Mr. SULLIVAN. The Bureau design criteria are based on 100-man barracks units connected by covered walks. At Memphis the architect elected to connect the wings with dormitories. That necessitated a corridor or covered walk in addition to the dormitories.

Mr. DONNELLY. I follow.

Mr. SULLIVAN. Our unit plan arrangement with connecting corridors permits men in one wing to go through to the mess hall without disturbing the occupants of the other wings. When you make a continuous building by connecting the wings with dormitories, you must provide corridors inside or outside. The architect in this case elected to put them inside. He might just as well have put them on the front as an arcade.

Mr. DONNELLY. The chairman is asking about the enlisted men here at the end of the wings [indicating].

Mr. SULLIVAN. If you look at the plan showing this portion between the main wings, there is a corridor in that area. This whole wing is a dormitory; and this wing, of course, is all dormitory. But within these little areas here there are toilets, and they have corridors too.

Mr. DONNELLY. But the architect could have designed it to provide a corridor not more than 5 feet wide to have access to the front of the building.

Mr. SULLIVAN. I do not think a 5-foot corridor would be adequate. It is too small when you have lots of people. Ordinarily corridors should be 6 to 8 feet wide. Men may have to go to the mess hall in formation.

Mr. DONNELLY. In the dormitories themselves—march in formation?

Mr. SULLIVAN. I do not know. But when you have 900 men you need more than a 5-foot corridor.

COSTLY PROJECTED ENTRANCES AND ARCADES ON MEMPHIS BARRACKS

Mr. DONNELLY. I would like to invite the committee's attention to these projections. There are 10, 1 for each of the 10 entrances. They extend out 11 feet and are faced on the side with brick. The wing walls on either side extend upward diagonally, which is expensive brickwork. And here we have one-quarter-inch glass. The trim is either cut stone or precast.

Mr. SULLIVAN. It is artificial stone, I believe.

Mr. DONNELLY. The area immediately on the inside is the noncommissioned officers' lounge. The question was raised in our own minds as to whether these expensive projections were needed to provide lounge space and whether lounges could not be put where the roof terraces are.

The committee will also note these arcades. There are eight of them. Couldn't they be limited in width to provide more space for such things as lounge and accommodate more men in there?

BRICK EXTERIORS ON MEMPHIS BARRACKS

Mr. SULLIVAN. Could I make an observation? This is a barracks for men. If built entirely of plain brickwork, it could get awfully monotonous. An architect tries to relieve this with a change of color or material. You do that to the entrance of your own home or fireplace with a little trim or a material of a different color. It is done to add interest and relieve the monotony. A building with no character or environment could affect the morale of these people.

Mr. DONNELLY. You speak of brick getting monotonous. Wouldn't it be just as practical from the viewpoint of durability to have concrete block painted with waterproof paint?

Mr. SULLIVAN. I would like to say a few words on that. That building has a reinforced-concrete frame, and the exterior walls are 4-inch brick veneer backed up with concrete tile. Remove the brick and asphalt tile on the floors and you might as well house these men in a gasoline service station.

Mr. DONNELLY. Our people have examined permanent armed service buildings right on the site and found them to have concrete block painted on the outside.

Mr. SULLIVAN. I would say they have leaned backward to save money. Ninety percent of these walls at Memphis are painted concrete block on the interior. The only place they have gone to face tile is in toilet rooms and for wainscoting.

Mr. DONNELLY. Do you think 4-inch brick veneer on these buildings is in harmony with austerity which is defined as severe simplicity?

Mr. SULLIVAN. You could interpret a concrete-block building as permanent, semipermanent, or temporary. I do not think there is anything particularly beautiful about a concrete-block building.

Mr. RILEY. What did you experience with moisture with these concrete blocks after they had been waterproofed?

Mr. SULLIVAN. I notice from the drawings he has 4 inches of brick for waterproofing and uses metal ties to hold the facing of brick veneer to the back-up tile.

Mr. RILEY. I mean if you left off the burned-brick veneer and simply waterproofed your concrete block. Do you have any experience as to how it stands the weather?

Mr. SULLIVAN. I think you could waterproof it. It would not look too well. You put the brick on to give it an attractive facing.

Mr. RILEY. I have seen construction in Florida with this concrete block, and they simply have a few decorations with brick to break the monotony of the walls and the rest is a bondex material, and they tell me it stands up under the hurricane winds and still resists moisture. They simply break the monotony of that wall with a few panels of some brick stuck in there.

Mr. SULLIVAN. Usually we have faced our barracks with brick in the past. We use a 4-inch brick facing and back it up with tile or cinder block, furred and plastered. At Memphis they have eliminated the furring and plastering. The reason they went to 8-inch back-up tiles was to get more insulating value. I would not say it is an expensive wall. It is one of the cheapest type walls you can build.

Mr. RILEY. You believe that putting burnt brick on the outside saves an expensive plaster on the inside.

Mr. SULLIVAN. No. You put the 4-inch outside to give the appearance of a brick building and back it up with tile, a lightweight tile, to give you some insulating value over a solid brick wall. Speaking of the brickwork, it is plain running bond. They could have gone to Flemish bond and other more expensive bonds.

Mr. RILEY. The point I am interested in is, brick is pretty high and brickmasons are still higher, and I am just wondering whether the veneer-brick wall on the outside is worth the price you pay for it even if you leave the plaster off on the inside, or if you have a 12-inch concrete wall with bondex on the outside if that would serve the same purpose. I am interested to know if it would serve the purpose.

Admiral JELLEY. That question came up in the committee hearing. It must have been last September because I have a copy of a memo from Mr. Lambert, September 1951. At that time we asked Memphis the estimated cost of various types of construction that they had considered, and these were the figures on 12-inch concrete blocks.

Mr. DONNELLY. Page 1059 in this book of hearings held in September 1951.

Admiral JELLEY. That is a 12-inch concrete block instead of 8-inch as Mr. Sullivan has been talking about—8 inches with brick veneer.

Mr. RILEY. I do not know that I have any answers as to whether the 12-inch concrete block would serve the same purpose as the 8-inch concrete block faced with brick.

Mr. SULLIVAN. I think it would, if you were satisfied with its appearance, but there probably would be more maintenance.

Mr. RILEY. I see.

NAVY'S INTENTIONS IN MATTER OF AUSTERITY ON MEMPHIS BARRACKS

Mr. FURCOLO. On page 947 there is quoted part of Admiral Sherman's letter—already introduced into the record—which indicates that the criteria for military construction which he has set out apparently do not take into account any desire to do anything to improve the morale of the men. You gave an answer that if the buildings were monotonous in appearance it might affect the morale of the men, and I perhaps agree with you. However, the fact is that in his letter he says that is not to be taken into consideration. The main thing is to limit these buildings to "strictly functional" facilities. Their durability is to be consistent with their mission.

I guess you folks on that side of the table gather that we on this side are more interested in these 1948 Navy plans that we have been looking at, and apparently we think some of the items in the Memphis barracks do not come up to this criteria. I, for one, would like to know at some time—

1. Whether or not you do try to follow these criteria. Whether or not you agree with them is another question.

2. I would like to know, at some time in the reasonably near future, what there is in this Memphis plan, and what facilities there are here, that you people yourselves feel do not meet these criteria. You may think they are necessary for some other reason, but surely I think the committee is entitled to have at some time someone with authority on that side of the table say, "We think everything meets the criteria, or this does and this does not meet the criteria." We have to know whether you people are going by the same yardstick that we have to go by on this side of the table.

I have gathered from some of the answers that you are not in a position to fully answer. It seems to me that we should not go on assumptions that the engineer thought this and someone else thought that. We should have the considered and the official answer of the Navy, or of the ones responsible, that this was necessary and this was not necessary or that we perhaps went a little too far on that, and so on. Everyone makes a mistake, but we are getting into a mix-up, Mr. Chairman.

Admiral JELLEY. Mr. Potbury has about four or five pages of items that will bear further investigation. Within the last week we have reviewed the specification with a fine-tooth comb, and he has a number of pages of things he wants to look into in the Memphis area with the people doing the job there.

He may be satisfied with all or half or none. I would either send someone to Memphis with that list to talk to the architect-engineer or bring him to Washington.

Mr. FURCOLO. It seems to me counsel has pointed out several pertinent questions on things that might be at variance with what we understand the criteria to be. As the record is, in the present state, the only things we have are assumptions or guesses. I am not saying that critically. But we will not get any place unless someone puts in specific answers so we are able to look at them and know, for whatever the reasons may be, that you people think it is necessary or it is not necessary, or it is necessary even though at variance with the criteria of Admiral Sherman's letter establishing a construction policy.

Admiral JELLEY. Mr. Chairman, would you prefer that we go to Memphis to look at that or that we bring someone from Memphis here and make him available for questioning by the committee? We can do it either way.

Mr. RILEY. I think we should have this information and you could get more by sending a man to get it, Admiral Jelley.

Admiral JELLEY. I think it would be good for the committee to go to Memphis.

Mr. RILEY. And possibly the committee should go down there later.

DOES THE NAVY MEAN AUSTERITY?

Mr. DAVIS. What assurance do we have, Admiral, that this austerity order of January 1951 is more than just window dressing? What kind of teeth does the Navy put into the order?

Admiral JELLEY. Well, the teeth would be disciplinary action of various kinds for deliberate violation. For something that was not deliberate I would feel that officer was not competent to supervise construction work. We have not taken any disciplinary action for violation of this order. I do not think that any of our reviews and inspections have been disregarded. But I don't know whether $7,000 worth of cut stone on a $3,500,000 building is a flagrant violation of Admiral Sherman's directive.

Mr. DAVIS. It would be awfully hard to prove.

Admiral JELLEY. Yes. I would feel that it was more of an indication that the man was not competent to be in charge of large and important work rather than requiring court-martial or a letter of reprimand.

Mr. DAVIS. You do not know of any officer getting a letter of reprimand for failure to exercise good judgment in order to obtain economy?

Admiral JELLEY. Let us have this off the record, please.

(Discussion off the record.)

Mr. DAVIS. On the record.

Some of that could be put on the record without naming the men.

Admiral JELLEY. This happened 2 or 3 years ago.

Mr. RILEY. Without putting places or names on the record?

Admiral JELLEY. I remember the men's names.

Mr. DAVIS. For the benefit of these other officers it might be well for this record.

Admiral JELLEY. I would like to correct the record and get our Inspector General to give the detail.

Mr. RILEY. Suppose you prepare a statement for insertion in the record at this point in answer to Mr. Davis' question.

Admiral JELLEY. I will.

(NOTE.—The information was supplied later, and is as follows:)

LETTERS OF CENSURE FOR VIOLATION OF INSTRUCTIONS

1. One Civil Engineer Corps officer and his commanding officer both received official letters of reprimand from the Secretary of the Navy for demolishing and rebuilding a building after authorization had been given for the building's repair. The cost of rebuilding was considerably in excess of the original approved estimate for repair.

2. Another civil engineer officer received an official letter of caution for elaborate renovation, remodeling, and refurnishing of a building; for slipshod administration in the matter; and for exceeding the annual limits of cost for repairs of the building.

J F JELLEY, *Chief of Bureau.*

RESPONSIBILITY FOR DESIGN AT MEMPHIS

Mr. DONNELLY. In closing, is this Memphis job the sole responsibility of Yards and Docks or has the Bureau of Aeronautics worked it up?

Admiral JELLEY. I would say our client in this case is primarily the Technical Training Command and secondly the Bureau of Aeronautics and the commanding officer of the local station. I would say our local man had three people to deal with. We are more in the position of having these people as clients. The Technical Command, the Bureau of Aeronautics, and naval air station command.

Mr. DONNELLY. Are the Bureau of Aeronautics and the naval command bound by this austerity requirement?

Admiral JELLEY. Yes, sir.

Mr. DONNELLY. Would you have had authority when the plans and specifications were drawn for the Memphis job, as Chief of the Bureau of Yards and Docks, to delete any items which you regarded as not in keeping with austerity?

Admiral JELLEY. So far as sash, I do not think the Bureau of Aeronautics would have an opinion in a matter of that kind. That would be entirely in our own purview. The commanding officer of the station might have expressed an opinion on some other points. The points you have brought up are mostly within our purview.

Those on recreation might come from the commanding officer but the remainder are more or less within the design engineer's authority.

TUESDAY, FEBRUARY 19, 1952.

Mr. RILEY. The committee will come to order.

Admiral JELLEY. Mr. Chairman, could I make an opening statement relative to a few points we had yesterday?

Mr. RILEY. Yes, sir.

POSSIBLE DELETIONS OF FEATURES IN MEMPHIS BARRACKS

Admiral JELLEY. First, in regard to the question of going to Memphis and examining the various points our specification people picked out as worthy of attention, Commander Stelger who is sitting at the

end of the table is catching the first available plane in the afternoon for Memphis with two people from our Specification Section. We have made arrangements with the architect's specification writer to meet them in Memphis and he will go over our list and be prepared to answer the committee's questions. I hope he can get back late Wednesday night if he can cover it in time. I would like to bring to your attention, though, that we only have three or four points that Mr. Donnelly has raised, so that unless things our people picked out coincide with the things he mentioned, we might not be able to answer some of his points.

I find that on January 31, the job was reported 13 percent in place so there may be things that Commander Stelger encounters that he does not consider in accordance with Admiral Sherman's directive. I have authorized Commander Stelger to stop any of that kind of work, to investigate whether or not a monetary saving can be made. He will be prepared to direct the contractor to stop any particular operation, like the brick walls, for example, until they check into what kind of a saving can be negotiated with the contractor.

We got some information from Memphis on the steel sash that I believe Mr. Donnelly said or quoted as $100 a unit. They actually cost $45.52 a piece, total cost of $127,547. The brick wall is estimated to cost $16,388. I believe yesterday we put a figure of $10,000 in the record.

[EDITOR'S NOTE.—Mr. Donnelly did not state $100 a unit.]

Mr. DAVIS. You originally guessed 15.

Admiral JELLEY. I hit it on the nose. Between you and me, I guessed $20 a foot and it was about $20 a foot. I hope from now on to get a little more respect from Mr. Sullivan.

YARDS AND DOCKS DIRECTIVES ON CONSERVATION

Finally, it was intimated that we had not sent any directives to the field with regard to economy and conservation. We have made a cursory check late last night and early this morning and I have gotten a number of letters here that we have sent to the field, circular letters; just to give you a few typical quotations:

> Design organizations must be alert to restrictions in use of various materials and end products as delineated by M-orders and other directives of the National Production Authority. Substitute materials should be used to the maximum extent compatible with the purpose and permanence of the facility being designed.
> Conservation of berrylium, concrete, etc.—

this is a general letter last April on conservation of materials. I do not know whether this applies particularly:

> Conservation of hog bristles; conservation of polytetrafluoroethylene resin.

Then in addition, we send out approximately every 3 weeks to every senior officer of the Civil Engineer Corps a summary of our Bureau staff meetings and in those I find things like this—

> The Assistant Secretary of the Navy discussed the acute shortage of various materials and stressed the necessity of devising substitute materials.

Senator Johnson's statement about the necessity of cost consciousness. We quoted that in full to our offieers. The criteria for the determination of the fiscal 1953 public-works program is one which we get out this way about 4 weeks before it would get out through the

normal course of events. In response to the directive from the Munitions Board, we stressed the necessity of exercising conservation in facilities contracts, utilization of existing facilities, and economy in standards of construction. For instance, we gave them a trend of the questioning by your committee in the 1952 public works bill. The following questions are typical:

"Are you of the opinion that this is an austere program and that these funds are actually needed in view of the large increases in construction costs?"

"Were the criteria for this program the same for all three services?"

I am concerned about the difference in construction costs per square foot as compared with those of the Army and Air Force. What is the basis for these costs?

We had six pages of questions that were asked so that they could see what was in the committee's mind. They would have a picture of how you were looking at these public-works projects. Those are just a few examples.

I would like to have permission to furnish for the record a list of exhibits of these various letters and both from the Bureau of Yards and Docks, then from the Chief of Naval Operations and from the Office of Naval Material. I believe that is what Mr. Donnelly wanted in the first place, but we misunderstood.

Mr. RILEY. Without objection, it will be included in the record.

Mr. DONNELLY. I think, Mr. Chairman, if we might have an opportunity to examine those documents and perhaps after examination propound a few questions to the Admiral, if appropriate before they are inserted in the record——

Admiral JELLEY. Suppose we try to have the whole thing to you first thing in the morning?

Mr. RILEY. We will withhold placing that in the record now, but will place it in the appendix to the record.

(NOTE.—The documents later supplied by the Navy are printed in the appendix at p. 307.)

Mr. DONNELLY. The time sequence is somewhat important. Congressman Kirwan wanted to use this room the latter part of the week. It would be helpful if you could get the material ready for us, so we can work on it late this afternoon.

Admiral JELLEY. I will have Mr. Patterson get on the phone.

EXAMPLES OF OVERDESIGN AT MEMPHIS

Mr. RILEY. Mr. Donnelly is going to ask a series of questions concerning information that he feels is necessary in connection with the Memphis project and we will ask Commander Stelger to take notes on them so that he can obtain this information during the trip.

Mr. DONNELLY. At the outset, the Admiral has made a few opening remarks here. On the windows—I have not had an opportunity to read yesterday's record, but I do not believe that I said those Truscon windows were $100. The note I have here in the brochure reflects information furnished by Truscon and the note in my handwriting is that they cost up to $100 and my recollection of what I said yesterday was that they ran two to three times the cost of that double hung metal sash window with the ventilating panel.

Admiral JELLEY. The $100 stuck in my mind.

Mr. DONNELLY. So that $45 apiece would be commensurate with what I had stated.

In order to aid Commander Stelger who is going down to Memphis, I thought it would be well to go down this list of questions which Captain Ventres went down with me last Friday and as I said yesterday, this list of questions was crystallized into writing on Friday, but previously Captain Ventres and I had gone over the plans cursorily and noted some of these things. The first illustration is Mr. Sullivan's statement of yesterday that the inside walls are unpainted concrete block. That is not true throughout, is it, Mr. Sullivan?

Mr. SULLIVAN. I think I meant in the major dormitories, major rooms, rather.

Mr. DONNELLY. For example, we have in the noncommissioned officers' lounge—that is, the three grades of petty officer and I understand the chief petty officer, we have a wainscot 5 feet 4 inches high, going up the wall, of glazed structural tile with baseboard, and asphalt-tile floors. That is correct, is it not, Mr. Sullivan?

Mr. SULLIVAN. In which room?

Mr. DONNELLY. In the noncommissioned officers' lounge.

Mr. SULLIVAN. I think so.

Mr. DONNELLY. And glazed structural tile is considerably more expensive than painting the concrete block, is it not?

Mr. SULLIVAN. That is correct.

Mr. DONNELLY. Now, with respect to the toilets and scrub rooms, the plans and specifications call for ceramic-tile floors. Ceramic tile is considerably expensive, is it not, Mr. Sullivan?

Mr. SULLIVAN. It depends on how you look at it; from the standpoint of cleanliness and maintenance, it is not expensive. It is the best floor you can put in a toilet.

Mr. DONNELLY. The tile is laid upon concrete, is it not?

Mr. SULLIVAN. That is right.

Mr. DONNELLY. You have a monolithic pour of concrete, one pour of concrete and the tile laid on it, is that not correct?

Mr. SULLIVAN. In a setting bed.

Mr. DONNELLY. And if the monolithic pour of concrete had been given a good trowel finish you would have a surface there that would be in keeping with austerity, would you not?

Admiral JELLEY. That good trowel finish costs a lot of money because that involves labor and you would have to really check into the detail of that to get the difference in cost. You would really need a machine job, a float, to get the floor satisfactory for sanitation.

Mr. DONNELLY. It would cost considerably less than ceramic tile.

Admiral JELLEY. We are building a permanent building. We told the committee we were building a permanent building and I would personally never think of putting a concrete deck in the toilet and shower room of a permanent building. Inside of 5 years, you would run into all kinds of trouble in keeping that floor up. We are not building a temporary structure out in the desert somewhere. We are building the only training station for aviation technicians.

Mr. DONNELLY. Would some cheaper tile serve the purpose just as well, for example, quarry tile?

Admiral JELLEY. I have never seen quarry tile in toilets.

Mr. DONNELLY. Let us go to the noncommissioned officers' lounge where there is asphalt tile laid on top of concrete. Would

it not be cheaper to have a trowel finish of concrete rather than have concrete and lay on the tile?

Admiral JELLEY. I do not think so. Asphalt tile on ordinary concrete would be cheaper than a hard-troweled concrete, but once again that would depend on the wage rates of cement finishers in the Memphis area, availability of them, and so forth. In general, though, asphalt tile is regarded as one of the cheapest forms of floor finish. You will see asphalt-tile floors in most of the low-cost housing because it is cheaper to give the concrete a quick finish and put your asphalt tile on top than it is to put any other kind of finish down. Anything you find in low-cost housing is usually minimum-cost material.

Mr. DONNELLY. Of course, I am a lawyer, not an engineer, and these questions have been suggested by the committee's engineers. There may be room for difference of opinion among engineers as to such things as feasibility, durability, maintenance, and cost.

Admiral JELLEY. I think I am wasting your time because we ought to be looking at this from Memphis' point of view. Why don't we address questions to Commander Stelger and let him be prepared to answer the things I am trying to answer now.

Commander STELGER. Or bring the answers back.

Mr. DONNELLY. I think I can help him or the committee can help him if we go down this list. You indicated in your opening remarks he would not know what we had in mind and that is what we are doing. Now let us go to the noncommissioned officers' lounge again. We have for the lounge acoustic-tile ceilings. Is that not rather expensive?

NAVY'S DUTY TO EXPLAIN FEATURES OF MEMPHIS PROJECT

Mr. FURCOLO. Excuse me, Mr. Chairman. I was wondering this: You apparently are going to go down the list and point out the different things that the committee's investigation has indicated may need to be checked over.

I was wondering whether before that is done, I think that should be done eventually, but I think there is responsibility on that side of the table, too, Mr. Chairman, to see what they can come up with themselves without suggestions from us. It is very possible that if they know everything that we are looking for, of course they are going to go and check those things as they should. But there may be some things that even our own investigators have not found, and I think that they naturally, I know I would if I were sitting there, I would go in the field with quite a compulsion to dig into it and find things to see if they can find such things as we do here. I do not know whether we will get the same results by going down the list and having them do it or whether we should postpone it for perhaps a day or two until they can come back and say, "This is what we found that we think should bear looking into." I just make the suggestion for whatever it is worth.

Mr. RILEY. These requests have already been discussed with Captain Ventres.

Mr. DONNELLY. Yes, they have.

Admiral JELLEY. We only had one list.

Commander STELGER. Twelve items on that.

Admiral JELLEY. This is the only list that Captain Ventres could copy or recall.

Mr. DONNELLY. These are the notes he made.

Mr. RILEY. Off the record.

(Discussion off the record.)

Mr. RILEY. Mr. Furcolo, I feel that our engineers have uncovered certain things that they feel are subject to criticism and unless the Navy knows what they are, I don't believe they would be in a position to answer us.

Mr. FURCOLO. I feel that, too.

Mr. RILEY. And I feel that they are entitled to know what the criticism is. Then if they have any suggestions as to how costs can be reduced with regard to this building, I think there is an obligation on them to point it out to us after they have made their own investigation. But I do think that they should have these questions, rather criticisms, before them when they go to make this investigation. They are sending a man down there to get this information. I think he ought to know what he is going for.

Mr. DONNELLY. Suppose I go down the list and note for the record those things that we have detected without asking for an answer at this time.

Mr. RILEY. I think that would be wise. Suppose we do that.

FURTHER EXAMPLES OF OVERDESIGN AT MEMPHIS

Mr. DONNELLY. I had mentioned acoustic tile ceilings in the noncommissioned officers' lounge.

The next item is in toilets and scrub rooms. There is suspended lath and plaster ceilings in the toilets and in the scrub rooms. Yesterday I touched upon the covered walks in the courts of each of the 10 wings.

The next item is a matter of pure dress and that is the stone panels between the windows on the first and second floors in the dormitory proper as distinguished from the entrance, the stone panels which run across there in place of the regular brick veneer finish.

Then we have metal partitions in the showers between each of the shower heads, as distinguished from a gymnasium where you would have a room with a number of shower heads without partitions between the shower heads.

Then we have an item of marble shelves over the lavatories in the wash rooms, marble shelves to put shaving cream, razors, and tooth paste on. Just to give you an example, 9 feet 6 inches long over five washstands, drawing No. 504982.

Then the next item we have here is partitions between the bunks where the men sleep; they have insulated metal panels between those bunks. The Navy has indicated that it is desirable to have something between the bunks. However, from the standpoint of breathing, these panels do not go up to the ceiling all the way. They go part way. So if there is noise, it may be muffled but only to a point.

I touched yesterday on the diagonal walls. Then we have 32 decorative wing walls, one story high and arcades. Our engineers have pointed out that almost the most expensive brick work that can be done is a diagonal wall of that nature instead of a square corner because of the difficulty in cutting your brick to get your diagonal going up. The bricklayer cannot lay a plumb down and trim down to a point. He has to fix a point above and get an artificial diagonal.

Then we have 3-foot concrete roof slab projection around the entire perimeter of the barracks which totals 25,920 square feet. And deletion of that would save form work, the reinforced concrete itself, reinforcing steel which is a scarce item, built-up roofing, tar paper with asphalt and paint on the underside of the projection. I think the committee should know that this job has built-in drainage that is, guttering and downspouts so that the projection over does not relate at all to the matter of the carry-off of water. And yesterday I mentioned the face brick for the exterior siding; and I believe the chairman mentioned painting the concrete block in lieu of the brick work. Yesterday, we also mentioned the four one-story sections of roof terrace, 15 by 30 feet covered with quarry tile which in turn requires double insulation for the roof underneath the roof terrace, and the roof terrace itself has 50 to 60 feet of iron pipe railings going around it, another scarce material.

Then in the mess hall itself, we have glazed structural tile base and wainscot in all spaces. Again we have face brick for exterior siding which could be substituted by painting the concrete block. We also have the 3-foot roof projection including a total area of approximately 2,868 square feet. And then we have an item of ceiling height, 17 feet for the ceiling. And the next item is the excessive use of stainless steel throughout galley and cafeteria.

Admiral JELLEY. Did you mean that you thought the 17-foot height was excessive?

Mr. DONNELLY. Yes, sir. Excessive use of stainless steel throughout the galley and cafeteria. I have not attempted to list or itemize the stainless steel that is used. To give two illustrations of obvious excessive use, in the lunchroom where you have cafeteria rail to carry your tray on down as you get your food, there is a panel on the counter down here below the railing which is completely stainless steel throughout. Then in the galley itself the clean-dish table where they put dry dishes, they have stainless steel supports for that table, for example. Those are two that I single out at this time.

Admiral JELLEY. You do not want him limited to those two cases but any use of stainless steel?

Mr. DONNELLY. Yes; the specifications themselves have many, many items dealing with stainless steel. Then we have elaborate entrance detailing with plate glass in special sash, cut stone paneling, and elaborate hollow metal doors. And finally, quarry tile ledges for the windows on the inside.

I pass to the training building. The training building has asphalt tile and ceramic tile flooring, and also the most expensive flooring, terrazzo tile flooring and terrazzo stairs. Again we have the face brick on the exterior.

The next item is suspended ceilings in stair halls which are there to cover the ducts. The ducts are at the top of the stair wells and they have suspended ceiling so that the ducts are concealed.

We have here a separate architectural rendering for the training building [indicating]. They prescribe concrete and cut stone coping around the tops of the roof here where as a matter of economy a terra cotta coping that you so often see on top of apartment houses or office buildings would be much cheaper and equally durable. Then there are decorative wall projections at the four corners of the classroom section. That is the wall that is projected out here which

requires three corners instead of one corner and each additional corner in brick work is considerably more expensive than one corner. They then have a very elaborate front entrance with much green stone trim, projecting wing walls, and large quarter-inch plate glass panels approximately 6 feet 4 inches square, and decorative terra cotta. The two pairs of double doors contain 20 plate glass panels, with plate glass above. Then in the training building we have ceiling heights in the classrooms of 11 feet 11 inches; and we keep in mind that the training building is air-conditioned throughout so that when you consider the ceiling heights you might also consider the air-conditioning that is provided. Then also there are separate toilets provided for men, for instructors, and for officers. As we read the plans, there are separate toilet facilities for instructors as against officers, so that there are three sets of toilets.

Then there is an elaborate program clock and bell system and public address system which might be rendered somewhat more austere if a public address system were necessary, and also an intercommunication system. In addition, there are in the class rooms themselves, the ordinary slate black boards, held in place by special aluminum trim with an aluminum rail at the bottom for chalk and erasers. They are called the chalkboards and the tackboards—I take it the tack board is where they tack up a drawing of some kind. The specification on that—I think I should read it since it is only one sentence:

Trim and chalk trough shall be extruded aluminum of proper shape and thickness to produce the strength required; aluminum shall have an alumlited finish.

Then in the class rooms there are metal window ledges for the windows and metal partitions between the class rooms. The window hardware is bronze which as I understand building materials is one of the most expensive types of window hardware.

Then we get into this. There are three complete ice water systems in this Memphis project including refrigerating machine, insulated storage tank, piping values for automatic operation in lieu of, for example, electric water coolers one to a floor or one to a dormitory wing, and the like.

I have not read everything on the list, but we can make this available. I think I have read enough.

Admiral JELLEY. Suppose we take that and photostat it and get the original back to you.

Mr. RILEY. Mr. Donnelly, will you proceed with the presentation, then?

Mr. DONNELLY. Thank you, Mr. Chairman.

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Admiral, yesterday afternoon Congressman Davis asked that there be produced here this morning a copy of the monthly report for Memphis so that he and the other committee members might see it.

Admiral JELLEY. Mr. Glenn has that report.

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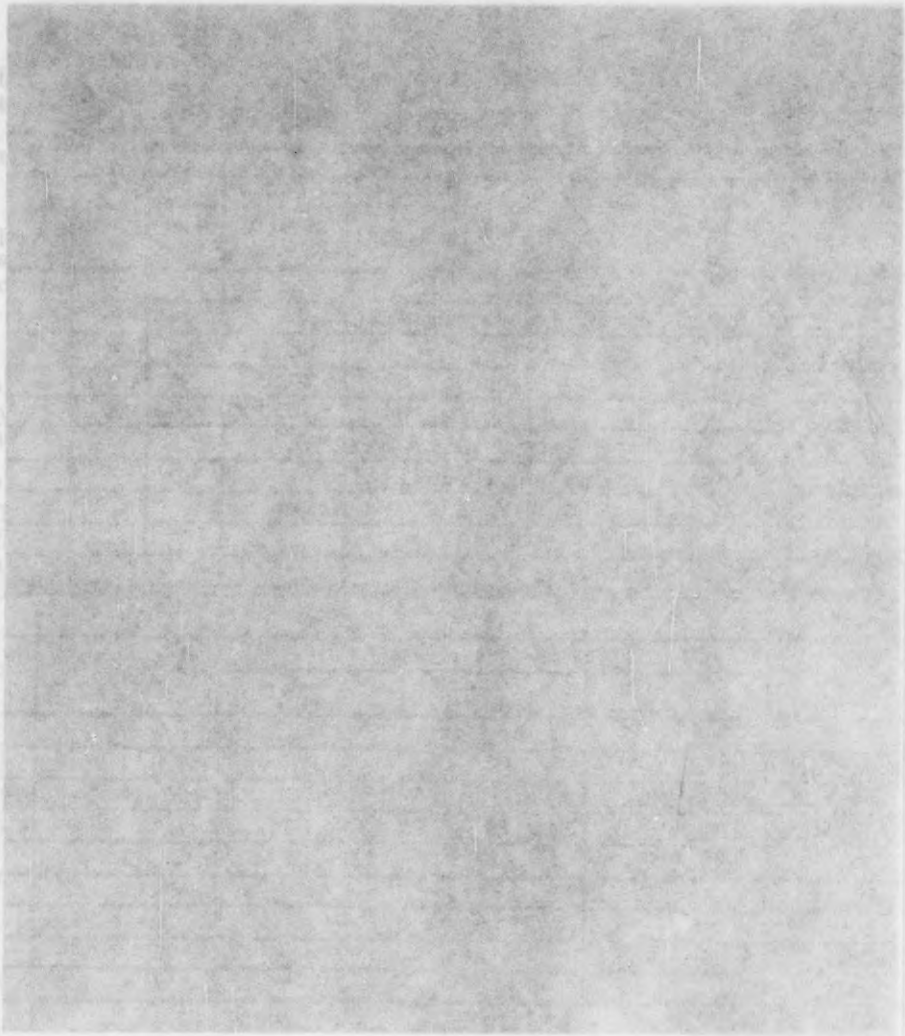

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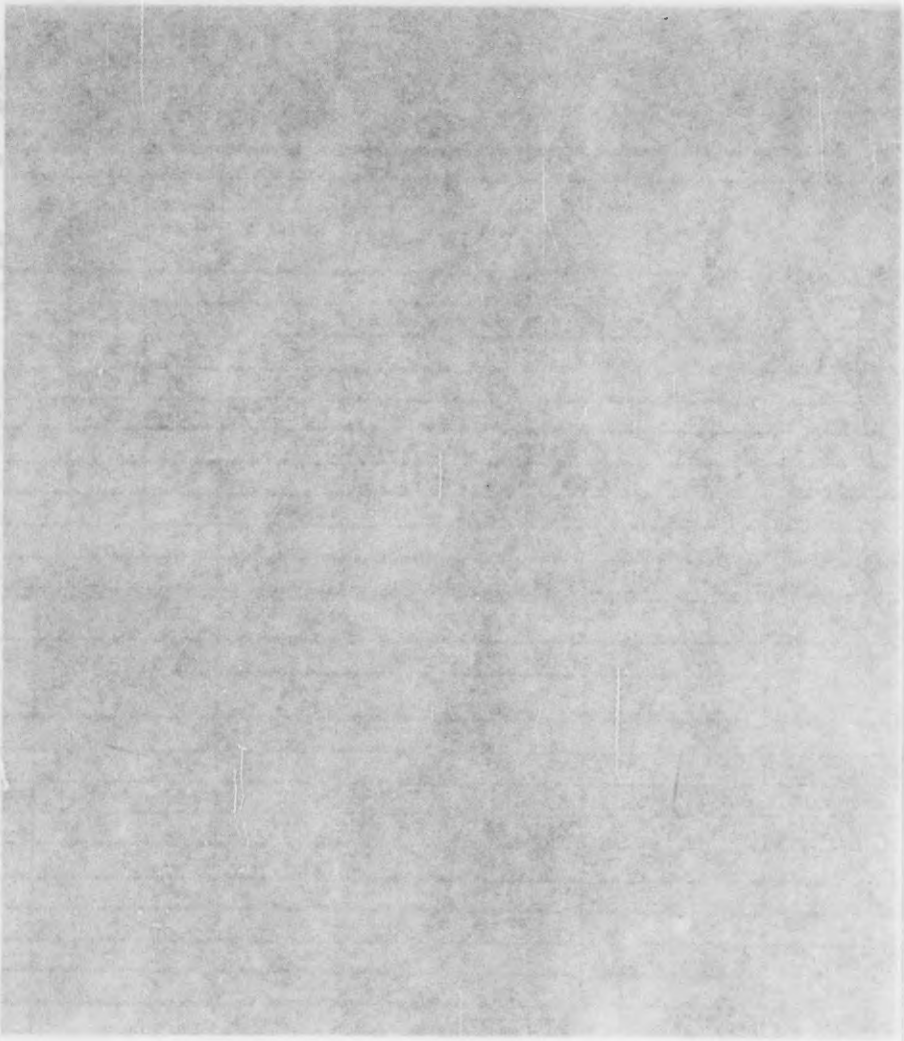

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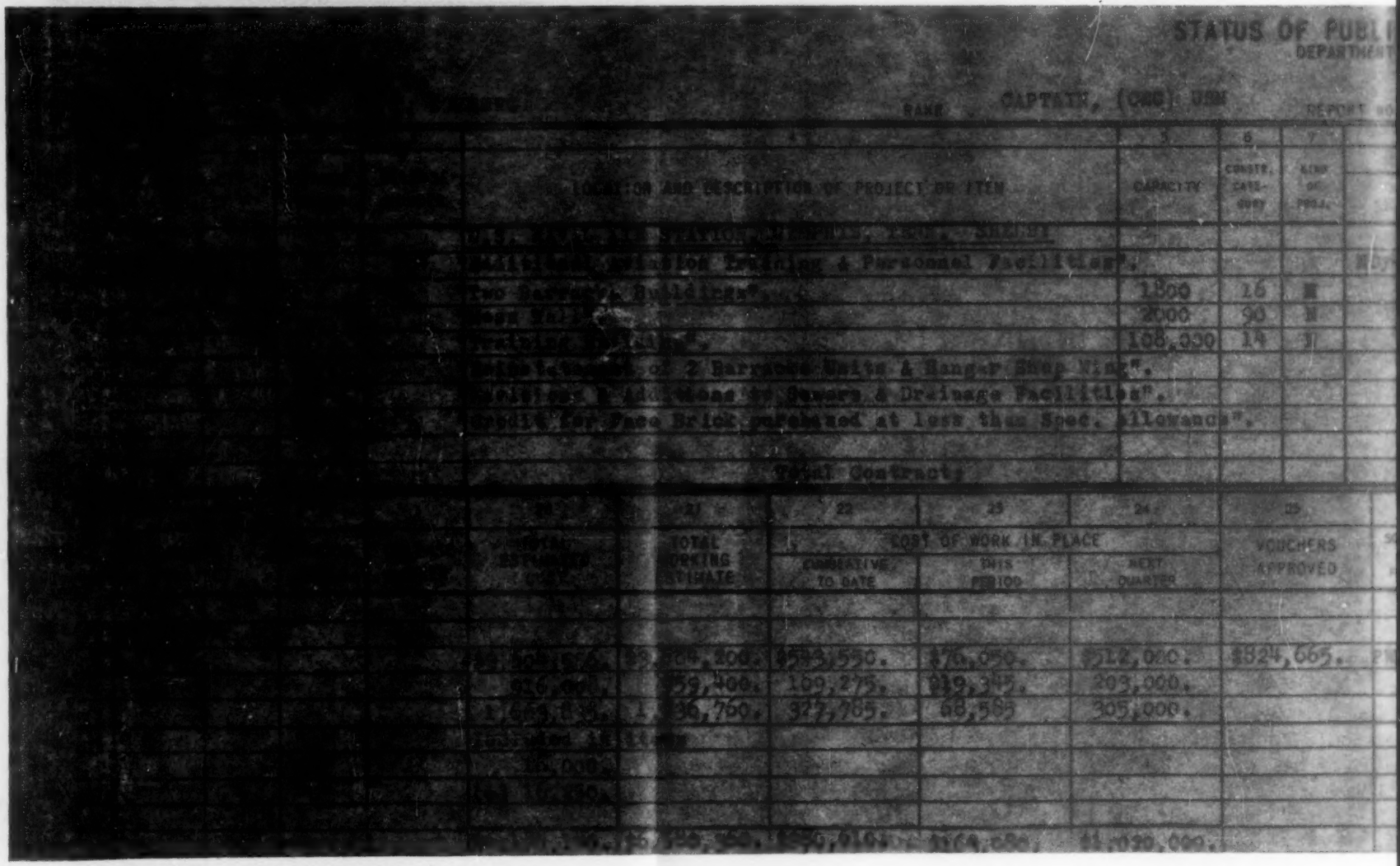


STATUS OF PUBLI
DEPARTMENT

RANK CAPACITY (ORG) USN REPORT NO

4 LOCATION AND DESCRIPTION OF PROJECT OR ITEM	5 CAPACITY	6 CONSTR. CATEGORY	7 KIND OF PROJ.
NAS, [illegible] STATION COMPLETE, FROM [illegible], SHEET 1			
[illegible] Aviation Training & Personnel Facilities".			
Two Barracks Buildings".	1800	16	M
[illegible] Mall".	2000	90	M
[illegible]	108,000	14	M
[illegible] of 2 Barracks Units & Hangar Shop Wing".			
[illegible] Additions to Sewers & Drainage Facilities".			
Credit for Face Brick purchased at less than Spec. Allowance".			
Total Contract			

20 TOTAL APPROVED	21 TOTAL WORKING ESTIMATE	22 COST OF WORK IN PLACE: CUMULATIVE TO DATE	23 THIS PERIOD	24 NEXT QUARTER	25 VOUCHERS APPROVED
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
$1,[illegible]	804,200.	$[illegible],530.	$70,050.	$212,000.	$824,665.
[illegible]	59,400.	109,275.	19,345.	203,000.	
[illegible]	36,760.	327,765.	68,585	305,000.	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	$1,020,000.	

[1] Symbol "32" stands for inclement weather.

WORKS PROJECTS

THE NAVY

SECURITY CLASSIFICATION

SF-1 Supplement "G" SHEET A SHEET 2 OF 2 SHEETS

DESIGN				CONSTRUCTION DATES			
DATE STARTED	ESTIMATED DATE OF COMPLETION	% COMPL.	TYPE CONT. LABOR	CONTRACT AWARD	START CONSTRUCTION	ESTIMATED COMPLETION	ACTUAL COMPLETION
29-2-51	10-5-51	97		15-7-51			
					26-7-51	0-10-52	
					1-8-51	0-10-52	
					13-8-51	0-9-52	
					26-7-51	0-10-52	

27 REMARKS	CAUSE FOR DELAY	LABOR STATISTICS	
		NUMBER EMPLOYED	MAN-HOURS WORKED
(Line 3, above)-Footings completed. Concrete columns & 2nd floor slabs poured on 3 of the 5 T. Brks. Units.	32	Prime Contr.	
(Line 4, above)-Footings & basement walls poured. Floor slab held up for details of boiler room equipment.	32	182	25,688
		Sub-Contrs.	
(Line 5, above)-Footings completed. Basement walls and floors completed & backfilled. Appx. 25% floor slabs, columns & roof slabs of main classroom wing poured.	32	29	196
			228
Note: Amounts shown in Column 22 corrected to exclude materials delivered but not placed.			

96640 O - 52 - pt. 1 (Face p. 64)

Mr. GLENN. That is right. This line 2 is the additional aviation facilities; line 3 is 2 barracks buildings; 4 is the mess hall and 5 is the training building.

Here are the percentages of completion: 13 for barracks, 9 for the mess hall, and 16 for the training building.

Mr. DAVIS. May I interrupt you to ask just one question there?

When the Army engineers present us with a percentage of completion, what they actually mean is that that percentage of the authorized money has been spent. What do those percentages mean on this table?

Mr. GLENN. This is the estimated completion at the site.

Mr. DAVIS. Physical construction?

Mr. GLENN. Physical construction; yes, sir. This amount here, off-site, is, well, the estimated materials on hand and things like that, you see. As I understand it, all the materials have been ordered for this.

Now, we go on down to this next line here. We get over into here, "Remarks" column, and we have line 3, above, "Footings completed." That is the mess hall; footings completed, concrete columns and second-floor slabs poured on three of the five west barracks units. That is, they call one the east-barracks unit and the other the west-barracks unit. They have the footings poured on those.

In line 4, "Remarks" column, which is the mess hall, we have: "Footings and basement walls poured. Floor slab held up for details of boiler-room equipment."

Then on line 5, "Remarks" column, the training building, we have "Footings completed. Basement walls and floors completed and backfilled. Approximately 25 percent floor slabs, columns and roof slabs of main classroom wing poured." And then we have a note; "Amounts shown in column 22 corrected to exclude materials delivered but not placed." Column 22 is the cost of work in place, cumulative to date. For the barracks buildings, they have $543,550; mess hall $109,275; for training building, $327,785.

Mr. DONNELLY. $980,610, total.

Mr. FURCOLO. Spent already?

Mr. GLENN. Vouchers approved; that is the total vouchers approved to date of this report, $824,665.

Admiral JELLEY. We pay periodically, weekly or twice a month or monthly depending on the size of the job in relation to what the contractor has actually spent for labor and materials. We do hold back 10 percent for a certain proportion of the job. Then 5 percent so that we are always owing him money.

Mr. DAVIS. Now, is this correct, that Captain Eckberg and you have a tentative completion table.

Mr. GLENN. Yes.

Mr. DAVIS. At the various phases. When this comes in, you place this report alongside of what you have expected that they ought to have done, and then you expect this report to give you an explanation as there frequently is here of cases where they are not in accordance with that schedule.

Mr. GLENN. They do set up a schedule. I have not the schedule which they have set up for this contract. I don't believe I have. I didn't look specifically fo see whether I have it or not.

Mr. DONNELLY. The dates shown for completion are here in columns 15 and 16, if that answers your question in part. Usable completion is shown here as October 1952 for the barracks and for the mess hall and September 1952 for the training building, with final completion for the barracks and mess hall in November of this year and for the training building in October of this year.

Mr. GLENN. I would like to point out another thing, sir. This column right here, column 18, reflects the schedule for completion at this date, so the schedule for completion at this date was 30 percent. Actually, he is 17 percent behind his schedule at this point for the barracks. On the mess hall, his schedule of completion was 25 percent. He is 16 percent behind schedule on that. On the training building, he has a schedule of 33 percent and is 17 percent behind schedule on that.

Mr. RILEY. I notice that column 28, the "Cause for delay" column in this has the figure 32.

Mr. GLENN. I am sorry I do not know about that.

Mr. RILEY. That must be a code figure.

Mr. GLENN. I just picked up this one report for Memphis and I failed to get the code on that.

NOTE.—The explanation for the code symbol "32"—which is "inclement weather"—has been inserted in the progress report, printed above.

Here is the total stipulated cost.

REASONS FOR CONSTRUCTION DELAYS

Admiral JELLEY. I would like to comment that those delays are typical of practically every one of our contracts. Every one of our contracts that was let after July 1, 1951, is behind schedule up to 25 or 30 percent. The ones that got underway before last July 1st seem to have been able to get their materials ordered better and get better deliveries on it. They are not as far behind. But the contracts that were let in the last 6 or 8 months are slowed down. So I would say his performance is average with other contracts.

Mr. GLENN. The weather down there is pretty bad at this time of year, too.

Admiral JELLEY. We have had terrific delays in California this winter for the first time in years on account of the weather.

Mr. RILEY. The principal cause of delay is in obtaining materials?

Admiral JELLEY. I was very much impressed with a survey we just made on all our jobs; on only three of our contracts is delay attributed to inefficient performance on the part of the contractor, that is, poorly organized or poorly staffed or poorly manned. That is around 1 percent. That is excellent performance at this time.

Mr. RILEY. When you don't get material, though, Admiral, there is a tendency on the part of the workers to slow down a little bit, not intentionally probably, but it is just an effect that comes from——

Admiral JELLEY. A prudent contractor will have material piled up all over the place before he brings men in so they can work against something. If brick arrives a truck load a day, that is one thing, but if you have brick piled up all over the place, they work faster. I have noticed good contractors do that frequently.

Mr. RILEY. The contractor takes that loss on a firm bid contract. And this Memphis job is a competitive bid proposition, is it not? Or is it not a cost-plus?

Admiral JELLEY. As most of our jobs are, it is a competitive bid job.

Mr. RILEY. Not a negotiated or cost-plus-fee contract?

Admiral JELLEY. No.

Mr. DAVIS. Before we leave our discussion of that report, I wonder if we could ask Mr. Glenn to insert a statement as to what that 32 actually does mean as to cause for delay on that chart.

Admiral JELLEY. The code?

Mr. RILEY. The code number 32.

Mr. DAVIS. Just insert it in there.

Mr. DONNELLY. I wonder if we might have this to put in the record, this document?

(NOTE.—It is printed above, at the outset of the discussion of its contents.)

Mr. GLENN. Yes, sir.

Mr. DONNELLY. In doing it, then, Mr. Glenn, suppose we put a footnote here, you see, so that the explanation that you give in response to Congressman Davis' question will be on the document in print. Also, since this document relates to more than one contract, I take it that it would be well to delete the other material that is on the page.

Admiral JELLEY. Do you want us to mark that up, Mr. Donnelly?

Mr. DONNELLY. I think I followed you enough to do it now.

LIQUIDATED DAMAGES FOR CONTRACTORS' DELAYS, AND EXTENSIONS OF TIME

With respect to the colloquy here on delay, the contractor at Memphis prescribes liquidated damage penalty for delay beyond the required completion date. The completion period for barracks and subsistence building is 400 days with penalty of $950 a day thereafter and for the training building, completion period of 360 days with a penalty of $375 a day thereafter. Our entire study of military construction by the Army, Navy, and Air Force indicates that the planning of projects has been compacted into unduly short periods of time. In some cases the planning is so deficient that when bids are advertised the plans do not even go out to the contractors so they know what they are bidding on. And in many cases unrealistic completion dates are set for the contractors, with high liquidated damage penalties.

Now, here we have a completion schedule for Memphis set up with rather stringent penalties, and I would like to ask the Admiral whether it is the Navy practice to assess these liquidated damage penalties against contractors for delay in completion?

Admiral JELLEY. In practice, it is very seldom that we are able to assess liquidated damages as there is good and sufficient reason or excuse in most cases, but I would like to ask Mr. Katz to talk about that subject in general. He is manager of the Contact Branch and he gets every request for extension of time and is much more familiar with it than I am.

Mr. KATZ. Well, I might say that the liquidated damages clause is a standard clause as you no doubt know, Mr. Donnelly. You have seen those contracts. They very same contract clause that provides

for the assessment of liquidated damages also provides that the damages shall not be assessed if we find that the delay was excusable. And the contract sets up general types of excusable delays: Storm, act of God, and so forth. Back around 1947 or 1948 we decided to adopt a liberal interpretation of that clause. We have therefore instructed our field personnel and the people in the Bureau that unless a contractor has deliberately laid down on the job, unless he has practically thumbed his nose at us on the job, we will find a way to let him out if the delays are beyond his control. In not one case out of 50 do we actually compel the man to pay the liquidated damages. Recently we have had a lot of complaints by contractors that they will be delayed by the priority system, by the allocations of materials. It was my opinion that our contract clause gave the contractors an out on that. But just to give them reassurance we now include in all of our specifications a point-blank statement that if they are delayed by the priority or allocations system it will be excusable.

Mr. FURCOLO. May I ask a question, Mr. Katz?

Mr. KATZ. Surely.

Mr. FURCOLO. That letter that the contractor in Memphis wrote seemed to make a point of the fact that one of the difficulties in getting other contractors to bid were these stringent penalty clauses. Yet, in your words, you indicate very clearly that the average contractor who knows his way around is going to know that those clauses do not mean a darn. I do not know whether that squares with the facts or not, but your answer to me seems a little bit confusing in view of what this other contractor pointed out. I think that the admiral or someone mentioned the other day that that was true—most of the contractors——

Mr. KATZ. The contractor who knows his way around on Navy construction contracts knows that he will have no difficulty in obtaining a time extension if there is an excusable delay. I was surprised when I read the letter you refer to and I came to two conclusions: One, that it was a contractor who was not familiar with Navy work; and two, that for one reason or another he did not think it worth while to ask Captain Eckberg or Commander Root how we interpret these things? We can explain just so much in writing, and I think you will agree that it would not be good policy for us to say in writing, "Don't worry, fellows, we don't really mean to make you pay liquidated damages."

Mr. FURCOLO. I know what you mean.

Mr. KATZ. But if that contractor had come to us and asked—and a good many do—we would have managed to give him sufficient reassurance on those points. There is no question about our policy. If Admiral Jelley led you to expect anything else, he did not mean to. He has helped to make that policy.

Mr. FURCOLO. Just to clear it up in my own mind, would you say that as far as contractors not bidding on Navy work, because of the fact that they are afraid of these stringent penalties, would it be your opinion in view of your experience, that that really is not too much of an objection or too much of a point to be made?

Mr. KATZ. That is correct.

Mr. FURCOLO. That is what I was interested in.

Admiral JELLEY. One other point, Mr. Katz. Did you check into the size of the liquidated damages? Is that in accordance with the formula that we use, or is it higher or lower?

Mr. KATZ. Just about up with our formula. We have a scale for liquidated damages and the amount of the damages we set up depends on the estimated amount of the contract. If my quick arithmetic is holding up (and I am not too confident of that), we start with about $300 a day for a $1 million contract; a $5 million contract would be about $1,300 a day. Now, that scale was fixed a long time ago—long before inflation—and I have generally considered it a little bit low for these days. That is a matter of opinion, of course.

Mr. DONNELLY. Mr. Katz, in your comments to the committee just now, two things struck me, and again I can say this from a background of some experience in construction litigation representing both contractors and the Government: the liquidated damage penalty is in the contract and may be enforced.

Mr. KATZ. That is correct.

Mr. DONNELLY. The general contracting business is a tough business and many of them go broke over the long haul. It is not unusual to find bonding companies stepping in to complete jobs. That is correct, is it not?

Admiral JELLEY. Yes, sir.

Mr. KATZ. You are talking about Navy contracts? It does not happen a half dozen times a year that we have to default a contract and have the bonding company step in, even if it is common in the industry.

Mr. DONNELLY. On this liquidated damage provision, that brings me to the discussion here yesterday, for example, on deletions of work from a contract by change order. Isn't the amount of liquidated damage penalty determined at the end of the contract while the Navy has still a retent of 5 percent in its pockets which has not been paid to the contractor?

Mr. KATZ. It is generally determined at the end but if the man is running well behind, we have an order out to the field men to take a look at the situation for the purpose of determining whether we should start holding up payments. Then there are cases where the officer in charge comes to us before the end of the contract, in order to avoid holding up payments and says, "I think this man should have a time extension right now." There are even cases where you cannot tell the extent of the time extension. You order electrical material today and you just do not know when you will get it, so we give the contractor an interim time extension until we can determine exactly when he is likely to get the material.

Admiral JELLEY. Did you mean that where there is a change order made, time is taken into account? It is. The change order has two features: first, the dollars, whether you add or deduct dollars; and second, whether you add or deduct time. It is very seldom that if you delete something on a job that you reduce the time. Because it is working in with dozens of other things in the building and taking one thing out really does not affect the completion of the building as a whole.

Mr. DONNELLY. That is true, but the point I would like to establish is this: that the bargaining power, the superior bargaining power under the standard-form contract, lies with the contracting officer

because he has discretion which is not reviewable in any court, as, for example, the equitable adjustment on a deductive change order for work deletion; and, secondly, on liquidated damages. It is discretionary as to how the liquidated-damage clause is interpreted. Mr. Katz mentioned a few of the causes: act of God, for example, or very adverse weather conditions, and the like. But, then again, that is still a matter of discretion with the contracting officers. Is that not correct, Mr. Katz?

Mr. KATZ. Yes, insofar as the facts are concerned. Courts may review matters of law where they are in issue, but findings of fact by the contracting officer are subject to appeal only to the Secretary of the Navy, and that is final.

Admiral JELLEY. I would like to say in my experience, Mr. Donnelly—and many times I have had to sit down with contractors and negotiate a change order—I have always felt that the contractor was getting the best of the deal. Now, maybe he felt that the Navy was getting the best of the deal. That tends to make a good bargain. But generally I felt at a disadvantage every time because he was the logical one to do the work. It was decided it had to be done, and he was the one that set the price. And my greatest difficulty was finding something to compare his estimates with, something he had been doing on that particular project a week or 2 weeks before. My personal feeling was that the contractor was the one who had the whip hand, not the contracting officer.

Mr. FURCOLO. Better keep that off the record.

Admiral JELLEY. I don't do that kind of work any more. I think it is safe.

Of course, the court decision you refer to only hit us a few months ago.

Mr. DONNELLY. Two years.

Admiral JELLEY. Even then, I must say we do not agree with the Supreme Court. We do not want to be in a position where we are a dictator and no one can go beyond us to the courts. So, I do not think our officers have had the idea that their actions were not reviewable up until October or November, when that Supreme Court decision was made.

Mr. KATZ. Mr. Donnelly is talking of the Moorman decision, which is 2 years old, and we are talking about the Wunderlich case, which is 3 or 4 months old. So, we are both right; we are talking about different cases related to each other.

Mr. DONNELLY. That is correct.

Now, my second observation is this: that the committee will see on other jobs that contractors play the game to protect themselves from liquidated-damage penalties. They build up claims for time extensions. They very carefully watch the Navy officer in charge of construction with respect to his own planning and scheduling, and they build up claims for time extension very early in the job; and in some of these areas, as the committee will see, the Navy itself, I believe, is deficient in their own planning of a job which they are supervising.

Admiral JELLEY. He has to, Mr. Donnelly, because we require that in case of any claim for time, whether it is caused by a flood or act of God, he has to let us know in writing within a short period; 5 days, is it not?

Mr. KATZ. Ten days; although that is a rule that we waive frequently.

Mr. DONNELLY. What I have in mind, as the committee will see, is not flood or act of God but, for example, when Navy comes here and tells the committee "We must have money now in the supplemental, money to build this particular field," and there is a rush to draw plans and specifications, there is a rush to award the contract and there is a rush for completion, and the contractor gets a quarter of the way through and the Navy says, "Well, we won't have the lighting for another year, the lighting equipment that goes on the field," so the rush about the whole matter is completely unnecessary.

Admiral JELLEY. He must report anything that would delay the job, even the Government's own action, to the officer in charge. He is supposed to speak up within 10 days and say, "In view of the fact that you say this Government material is not available, or you cannot turn this section of land over to me to work on, delay starts from such-and-such a date."

Mr. DONNELLY. The committee will see down in Norfolk, as we get into it, that the contractor is building a runway; he has his forces on the job. He has heavy machinery on the job, and he has his payroll going, and then suddenly there is an omission on the part of the Navy down there. Removal of a duct is found to be necessary, and it takes 11 weeks of study by the Navy, as I remember, 11 weeks to decide whether or not to move the duct. In the meantime, the job is just standing there with the expense going on. And then beyond that, for example, there is a question of where a fence is going to be put up. So, he goes down the field and he puts up a fence and digs his post holes and puts concrete down and starts to construct a fence. The Navy then decides to move it, and move it he does; and that builds up the expense.

Admiral JELLEY. I am surprised that I had not heard of that sooner, because the vice president of that company is one of our retired civil-engineer admirals. He has not hesitated to chew my ear before if he were delayed. I am surprised I had not heard of those cases.

Mr. KATZ. You are not talking about liquidated damages, then; but about the actual damage that a contractor suffers through delay. Of course, you know the courts say we cannot pay him for that. We have no choice.

Mr. DONNELLY. I am talking about a cause for time extension. You only mentioned a few, such as act of God and the like. I am talking about the deficiencies in the Navy's own construction supervision of a job under way and the Navy's own planning of a job. That builds up the time extensions and washes out or mitigates the liquidated damage.

Mr. KATZ. That is correct.

Mr. DONNELLY. Any other questions on this?

EFFECT OF ANTICIPATED DELAYS ON BID AMOUNTS

Mr. RILEY. Would not these delays to an experienced contractor cause him to increase the amount that he bids; so, in the long run, it costs the Government more money?

Admiral JELLEY. Theoretically, yes; but contractors are ever optimistic. If he puts in a price for what delays might be caused by

the Navy, he knows that some other fellow who is bidding and who has not done a job for the Navy before would not put them in. I think our general reputation undoubtedly affects the prices. If we have a reputation of being very strict and tough with contractors, they are just going to be a little more liberal in estimates, because they do not know what they are coming up against. But it would be pretty hard to determine. From what I have heard from the contractors, I think our reputation is good and we do get a rock-bottom price.

Mr. DONNELLY. In line with your question, I understand from our own study that the contractors put in their bids items that they call "contingencies," which often run 15 percent to take care of what you mentioned here.

Admiral JELLEY. Of course, for the fence and the duct line you cited, there would be some adjustment made in the change order. Now, while we could not perhaps say, well—I have not made a change order for so long perhaps you had better answer that—when they write a change order to take care of that unforeseen duct line, would the contractor get any credit for office overhead to carry on for an additional month?

Mr. KATZ. Surely. He gets estimated costs of labor and materials plus overhead plus a fixed profit of 6 percent; that is what we provide for in our contracts.

Admiral JELLEY. The contractor would not be out of pocket entirely because the Navy had not known about that duct line when they drew the plans.

Mr. DONNELLY. He is being paid. The Government is paying.

Admiral JELLEY. So, it is an additional cost for the Government, not for the contractor.

Mr. DONNELLY. Exactly. I think that the study will show that the Navy and all the services might, by more emphasis on planning, eliminate a lot of those situations that exist and are costly to the taxpayers.

PRELIMINARY COST ESTIMATE OF MEMPHIS PROJECT

Admiral, yesterday I read a summary of the Memphis job which we had written up from data furnished by the Sixth Naval District, and I read the statement that the contract amount of $6,184,399, which included the change order adding the two wings, was approximately $2 million in excess of the preliminary cost estimate. And you had raised a question as to whether that was an accurate statement. I have confirmed it here.

Admiral JELLEY. I have confirmed it, too, Mr. Donnelly. I was speaking of the figures we had quoted the committee, which, as I recall, were in round figures $2,000 a man for barracks, $500 or $600 a man for messing. And the Memphis costs were in line with that. However, when I called Captain Eckberg last night to arrange to have somebody at Memphis today, I asked him about that, and he said the architect had been very optimistic in his initial cost estimates, so that your statement yesterday was quite correct.

Mr. DONNELLY. I wonder if that actually explains the data that we have here. The preliminary cost estimate shown on this document furnished by the Sixth Naval District is $3,957,000, which is substantially less than $6 million.

Admiral JELLEY. Does that include the training building, too, or just the barracks?

Mr. DONNELLY. It is the entire job, contract NOy 27274, and it is all three operations: The barracks, mess hall, and training building. The dates shown on this document are August 3, 1951, as the date of initial allotment; date of advertisement, May 15, 1951; date of bid opening, June 15, 1951. Number of bids received from contractors, three.

I would like to ask whether the $3,957,000 was the architect's cost estimate; that is, the architect-engineer who drew the plans and specifications.

Admiral JELLEY. I understand from Captain Eckberg it was an estimate which the Navy gave the architect to work against.

(NOTE.—The Navy subsequently supplied the following explanation of the cost estimates for Memphis:)

DEPARTMENT OF THE NAVY,
BUREAU OF YARDS AND DOCKS,
Washington, D. C., March 4, 1952.

JOHN J. DONNELLY, ESQ.
Counsel, Subcommittee on Military Construction,
Committee on Appropriations, House of Representatives,
Washington, D. C.

DEAR MR. DONNELLY: In accordance with your request, this will supplement and further clarify my letter of February 28, regarding estimates for barracks, mess hall, and training building at the Naval Air Technical Training Center, Memphis, Tenn., obtained in the Sixth Naval District by your investigators.

Public Law 910 of the Eighty-first Congress authorized $11,585,000 for facilities at the center. By Public Law 911, the Eighty-first Congress appropriated $6,020,000 for the facilities.

Of the $6,020,000 appropriated, 5 percent or $301,000 was administratively set aside for design, investigation, etc., leaving a total available for construction and land acquisition of $5,719,000. This $5,719,000 was divided by the district public-works officer of the Sixth Naval District as follows:

Land	$120,000
Runways, etc	1,642,000
Barracks and mess hall	2,770,000
Training building	1,187,000
Total	5,719,000

The sum of the figures for barracks, mess hall, and training building—namely, $3,957,000—was furnished the architect-engineer as an estimate of construction cost in a letter to him from the district public-works officer. This letter was notification to the architect-engineer of an award for A. & E. services contract NOy 24802. The figure of $3,957,000, which accords with the figure given the investigators in the tabulation made at the Sixth Naval District headquarters, was arrived at prior to the preparation of detailed plans and specifications.

As stated in the letter to you of February 28, 1952, the contractor's preliminary estimate was $5,437,755.64, which was later revised to $4,713,362.95.

With the elimination of two barracks wings and a wing on the training building, this estimate was reduced to $3,853,500, which did not include connecting and off-site utilities. The contractor has also stated that "These estimates, being made before all complete information was designed regarding the electrical and mechanical work, were obviously low."

The breakdown of the $3,853,500 estimate is as follows:

Barracks, mess hall, and training building

1. Barracks with one wing of each building deducted	$2,089,500
2. Mess hall complete	629,000
3. Training building without center wing and air conditioning	1,135,000
Total	3,853,500

Since, as indicated in our letter of February 28, 1952, the contractor made no final estimate prior to request for bids, no determination was made as to amounts to be added to the preliminary estimate for inclusion of utilities or to increase the amount for mechanical and electrical work, which would have served to augment the $3,853,500 figure to make it all-inclusive and comparable to the bid of $5,444,637.

With kindest regards,

Sincerely yours,

A. D. HUNTER,
Captain, CEC, USN,
Deputy Chief of Bureau.

CONSTRUCTION MATERIALS LESS COSTLY BUT EQUALLY DURABLE

I wonder if for the benefit of the committee, the Bureau would take the standard design criteria of 1948 for barracks which we have all looked at and furnish a statement of the types of construction materials that would go to make an austere building, that is, a permanent durable building, and yet use austere materials. I have had a list prepared by the committee engineers. We have a number of items which would be in the standard construction operation, such as, for example, footings, foundation walls, first floor, exterior walls, center supports, second floor, roofs, stairs, interior partitions, interior finishes, doors and interior trim, and so on. I will not read the list through. But we have an idea from the committee engineers as to what austerity and durability would be in construction, and I wonder if the Bureau could furnish a list of that type.

Admiral JELLEY. We will be glad to work up something like that. In what detail? Did they have three different materials for each of those, or six, or how far should we go? We will have to work on it for a couple of weeks.

Mr. DONNELLY. I believe, Admiral, it would be better to specify several alternatives with respect to durability and economy as has been done, for example, by the Air Force because your barracks building will vary with the climate as you pointed out yesterday.

Admiral JELLEY. We will be glad to work up such a list.

(NOTE.—The Navy subsequently compiled this data. It is printed in the appendix at p. 305.)

POSSIBLE UNIFICATION AMONG THE SERVICES ON BARRACKS CRITERIA

Mr. DONNELLY. Now, the over-all subject of barracks which have been high-lighted to some extent by Memphis, in the hearings up to this point, gives an idea of what might be accomplished by way of standardization of design by the three services. In other words, we have unification in 72 square feet per man sleeping space. Could there not be unification with respect to gross area per man?

Admiral JELLEY. We have people studying that question right now as a result of your request.

Mr. DONNELLY. That seems to be an excellent catchhold for the entire problem. We have asked your Bureau to prepare the area figures for the standard criteria which the committee has examined here, to furnish a basis of a comparison with the other services, and I am sure they will show that the Navy is far in excess of the other two services by way of space. I hand one of these to each member of the committee.

Admiral JELLEY. I do not think your own figures here will show that. We are bringing up the tail end.

Mr. DONNELLY. Let me qualify.

Admiral JELLEY. I do think we are in excess of what your committee engineers say.

Mr. DONNELLY. The Army and the Air Force have indicated that they intend to confine their construction operations to 120 square feet gross per man and we have the figures here for the record.

Admiral JELLEY. Off the record.

(Discussion off the record.)

Mr. DONNELLY. What we did yesterday was look at this document which was typewritten and dated February 15, 1952, which compared Memphis as against the standard criteria. (The document referred to, and related documents, is printed above at pp. 34, 35-37.) Now, we have the Navy's take-off of footage from their plans, and you see over here how they arrived at the 143 feet for the standard criteria. Mr. Chairman, I would like to insert this take-off in the record at this point.

Mr. RILEY. It will be inserted here.

(The document is as follows:)

DATA SHEET ON BARRACKS

1. Location of unit and using agency: Based on Bureau design criteria.
2. Classification and description of construction: Permanent construction, flat roof.
3. Date of construction contract and contract number: None.
4. Number of similar buildings: 100-men unit.
5. Number of sleeping rooms per building: Two enlisted men dormitories, 1 NCO dormitory.
6. Gross area, outside dimensions (give breakdown in item 11): 14,364 square feet.
7. Construction cost: [1] [2] $185,295.60, based on $12.90 per square foot; $191,041.20, based on $13.30 per square foot.
8. Cost per square foot: $12.90, $13.30.
9. Rated capacity: 100 men, 88 enlisted men, 12 noncommissioned officers.
10. Cost per man based on rated capacity: $1,852.95, based on $12.90 per square foot; $1,910.41, based on $13.30 per square foot.
11. Analysis of space:

Type: Permanent construction.
Where built: Bureau design criteria.
Does barracks house heating boiler: No.
Number of similar buildings: 100-men unit.

[1] Construction costs based on cost per square foot for naval air station, Memphis, Tenn.
[2] If job not yet completed, use latest estimate and so indicate (excluding Government costs, A. & E. costs, and utilities beyond a 5-foot line and including any Government-furnished equipment except movable furniture.)

Type of space per building	Area (square feet)	
	Gross	Per man [1]
Sleeping rooms (including closets accessible from such rooms) (enlisted men and NCO dormitories)	8,120	81.20
Lounge space	1,482	14.82
Toilets and janitor's closets	1,112	11.12
Personal storage space	175	1.75
Other storage space		
Corridors	939	9.39
Laundry (scrub deck)	320	3.20
Linen	112	1.12
Stairs (horizontal projection)	640	6.40
Heating and mechanical equipment (basement)	100	1.00
Mess and kitchen space (separate building)		
Administrative space (MAA office)	100	1.00
Study room space (none)		
Other space—specify (pipe space)	43	.43
Wall and partition space to balance with gross area given in item 6	1,221	12.21
Total	14,364	143.64

[1] Based on rated capacity.

12. Total basement area included in the above: 100 square feet.

NOTES.—All areas on this page to be computed on basis of inside dimensions: O. K. Exclude attic and crawl space: None. Each sheet to contain only data applicable to a multiple of buildings of the same design under the same contract.

Mr. DONNELLY. I would like to invite the committee's attention to the fact that we will find as we go along that the Army and the Air Force figure at the top of page 2, instead of 81.20 is 72.1, and instead of 143.64 it the bottom of that column will be somewhere in the neighborhood of 120 with a decimal or 121.

Admiral JELLEY. You have copies? This is the kind of information I need: How much went for storage, corridors, laundry, stairs, heating, and so forth. That would be of great assistance to us in working on the problem.

Mr. FURCOLO. This is what it is supposed to be?

Mr. DONNELLY. According to peacetime criteria of 1948.

Mr. FURCOLO. It is supposed to be 81 square feet per man?

Admiral JELLEY. That is the average of the enlisted men's, 72, and NCO, 90. It works out about 81.20.

PROPOSED AIR FORCE BARRACKS CRITERIA

Mr. DONNELLY. Now, to show that the 120 square feet gross for the Air Force—I have here the breakdown officially furnished to the committee commensurate and comparable in every way with the Navy one that we are looking at. I will now pass the Air Force breakdown to the members of the committee, and we get the comparisons here. May this go in the record at this point, Mr. Chairman?

Mr. RILEY. The Air Force breakdown will be inserted here.

(The breakdown is as follows:)

AIR FORCE, 1952 PROGRAM, DATA SHEET ON BARRACKS

1. Location of unit and using agency: To be built at various locations of United States Air Force. (See enclosure No. 2.)
2. Classification and description of construction: 25-year life, three-story concrete frame with concrete-block curtain walls, utility room in basement (drawing No. 21-01-78).
3. Date of construction contract and contract number.
4. Number of similar buildings: (See enclosure No. 2.)

5. Number of sleeping rooms for building: 73.
6. Gross area—Outside dimensions (give breakdown in item 11): 25,386 square feet.
7. Construction cost: [1] $253,925.
8. Cost per square foot: $10.00.
9. Rated capacity: (Based on average space allowance of 72 square feet per man) 200 men.
10. Cost per man based on rated capacity: $1,270.
11. Analysis of space:
Type: 25-year life.
Does barracks house heating boiler: No.

Type of space per building	Area (square feet)	
	Gross	Per man [1]
Sleeping rooms (including closets accessible from such rooms)	14,404	72.0
Lounge space	2,235	11.2
Toilets and janitors' closets	1,810	9.1
Personal storage space	None	----------
Other storage space	None	----------
Corridors	3,148	15.7
Laundry	522	2.6
Linen and game storage space	None	----------
Stairs (horizontal projection)	657	3.3
Heating and mechanical equipment	249	1.2
Mess and kitchen space	None	----------
Administrative space	None	----------
Classroom space	None	----------
Other space—specify (wall and partition space to balance with gross area given in item 6)	2,361	11.8
Total	25,386	126.9

[1] Based on rated capacity.

12. Total basement area included in the above: 305 square feet.

NOTES.—All areas on this page to be computed on basis of inside dimensions. Exclude attic and crawl space. Each sheet to contain only data applicable to a multiple of buildings of the same design under the same contract.

[1] If job not yet completed, use latest estimate and so indicate, excluding Government costs, AE costs, and utilities beyond a 5-foot line, and including any Government-furnished equipment except movable furniture.

Admiral JELLEY. This is the Air Force?

Mr. DONNELLY. Yes; and everything is based on single bunking in all the breakdowns.

Admiral JELLEY. The Air Force have some single and some double bunks in their barracks.

Mr. DONNELLY. We anticipated there might be some confusion, so the committee engineers prescribed a uniform standard of breakdown, and single bunking is one of the items. Each of the breakdowns you see on page 2 as to utilization of space is standard so there won't be any confusion about comparing the services.

NAVY CONCEPT OF PERMANENT CONSTRUCTION

This Air Force structure we are examining is for 25-year life which is permanent construction.

Admiral JELLEY. I do not agree with that. I do not think Air Force calls it permanent either. I do not consider cinder block permanent construction. Semipermanent, yes.

Mr. DONNELLY. So there won't be any confusion in terminology I have reviewed all the hearings in the last calendar year, with a particular view to understanding the terminology used by the

services in testifying to this committee. And I have found, generally speaking, that there is the theater of operations or tar paper type of construction which is called emergency and lasts up to 5 years. Then they have what is 10-year life which is semipermanent, and then they have 20- to 25-year life which in the terminology as I have followed it, has been permanent. Do you want to make some comment on that?

Mr. FURCOLO. Maybe you can agree on years.

Mr. RILEY. Those are the general terms, Admiral, that have been used before the Armed Forces Subcommittee in justifying the requests for appropriations.

Admiral JELLEY. They say in there, for permanent and semipermanent, 10 to 20 years. Temporary, they do not use years, but I agree with you that it is 5-year life.

But I do not think you could put a 25-year life on permanent construction. I agree that on semipermanent construction you can put a 10 to 20 years limit. But on permanent construction we have drydocks 120 years old; that is permanent. We have a building down at the Naval Gun Factory that is 148 years old. That is permanent construction.

Mr. DONNELLY. Then, would you want us to regard your definition of permanent as a century, 100 years, or could you fix a period of years—50——

Admiral JELLEY. I can fix a period of years for semipermanent, 10 to 20 years, but permanent means permanent. They are built for the ages.

Mr. FURCOLO. For barracks?

Admiral JELLEY. We have barracks at Washington Navy Yard that have been in use for 148 years.

(Discussion off the record.)

The Navy is tied down to permanent natural features. We are tied down to a harbor or a port. Norfolk, for example, was used by the British long before the Revolution. Norfolk has been in use as a naval port since 1650 or something like that. San Francisco, Pearl Harbor, Guam—the number of ports in the world adequate for a fleet are limited. Gibraltar, why, look at the Prudential Life Insurance Co., they consider Gibraltar as permanent. There will always be a naval port there. When we have had to build something at Norfolk or San Francisco or Pearl Harbor, I think we should use permanent construction.

Now, if we have an air station, that depends on the range of planes. We all know in our own experience that 30 years ago the plane would go a couple of hundred miles before it had to come down for refueling. Now it can go a couple of thousand miles. That the need for an air field need not necessarily be permanent because it may become obsolete or obsolescent as the art develops, but as far as harbors and things like that are concerned, permanent construction is necessary. The Naval Academy should be permanent. I think this training building should be; it is the only one in the country; it should be permanent. I think we have had Newport for a training station since before the Civil War. Norfolk was a training station. San Diego has been a training activity for nearly 50 years. Those places should have permanent construction. For something that we do not know about we should use semipermanent or temporary, but we came into the committee

with projects that were for permanent facilities. We had to certify that they were for the forces in effect before the buildup in Korea. But I really think I am on a tangent because we are talking about areas and not type of construction.

Mr. DONNELLY. Is this time, with construction costs highest in our national history, the time to be building barracks that will last 100 years?

Admiral JELLEY. To be very frank, it should have been built in 1947 and 1948 and 1949. Why didn't the committee give us money to build those in 1947, 1948, and 1949? You cannot expect me to question the judgment of the committee.

Mr. DONNELLY. Now with respect to the word "permanent" as terminology, you have just referred to airfields, for example.

We have here the Air Force outline specifications for standard Air Force buildings, June 1, 1951. The heading of it is this: "Outline building specifications for Air Force semipermanent 10 year- and Air Force permanent 25 year-construction." Do I understand that you disagree with the Air Force's concept of permanency for air fields?

Admiral JELLEY. No, I tried to make it plain that I do not think they can say at this time that any—except of course some of the marginal fields along the coast would be permanent, but fields in the interior, I do not see where they can say at this time they are going to be permanent. We have seen when you had to hop all across the country in short steps; now you go across in one jump. We have guided missiles coming along. I have heard it said that guided missiles are going to replace the plane. I think that the Air Force is being very sensible in going to a semipermanent type of construction. We have 150 years behind us.

Mr. FURCOLO. If I might interrupt, you must have some buildings that are made of the same materials as buildings that the Air Force has. That is right, isn't it?

Admiral JELLEY. Undoubtedly.

Mr. FURCOLO. They have some buildings made of materials that they classify as permanent and apparently they mean 25 years. You have some buildings made of the same materials as those used for 25 years. I do not know whether that will help in an analogy or not, but apparently if we can get to something like that, you may have some comparison.

Admiral JELLEY. It is difficult to narrow it down too precisely, Mr. Furcolo. The Air Force are calling their standard barracks which are reinforced concrete frame with cinder block walls, semipermanent. In my mind that reinforced concrete frame, if properly designed and constructed with adequate cover over reinforcing steel, is permanent. It will be there 100 years from now. But they are going to have to go in there in 20 years or 25 years, and do something to that cinder block, so the cinder block in my mind is not as permanent as the frame itself. But that concrete frame, it should be there 100 years from now unless there is a natural disaster.

Mr. FURCOLO. Maybe it will but if the Air Force has a building here with cinder block or steel or whatever it may be, and it costs them so much to build, no matter what that figure is, and whether it lasts 100 years or not, and you have one here that costs you the same to build, and no matter what you call it and no matter what repairs you may

do 50 years from now, if they were both built in '50 or '51, certainly you have a basis of comparison.

Admiral JELLEY. No doubt about that.

Mr. FURCOLO. Isn't that the sort of thing we want to get to? There must be things like that.

Mr. DONNELLY. We got off on this discussion of the term, permanent, as Admiral Jelley examined this Air Force space utilization chart that we have here.

NAVY ACCEPTANCE OF 72 SQUARE FEET SLEEPING SPACE PER ENLISTED MAN

Now, permanency in construction materials has no relation at all to space allocated to each man, which is the gist of what we are looking at.

Admiral JELLEY. Except that in the Munitions Board standard they gave certain space allowance for semipermanent and permanent and another space allowance for temporary.

Mr. DONNELLY. Seventy-two square feet is for permanent.

Admiral JELLEY. And semipermanent.

Mr. DONNELLY. All inclusive; is that right, sir?

Admiral JELLEY. It was defined by the Munitions Board for permanent and semipermanent; for instance 10 to 20 years, construction. Temporary construction was 60 square feet.

Mr. DONNELLY. Is it your feeling that on 100-year permanent basis for barracks there should be more than 72 square feet per man?

Admiral JELLEY. No, and for this reason. You go in a station, build a permanent barracks and allow them 72 square feet, single-bunked. That will take care of your career enlisted man during peacetime very comfortably. They are satisfied; they are going to reenlist and you have a man put in 20 to 30 years in the Navy.

If an emergency comes along, by double-bunking without further construction, without further effort you will immediately double the capacity of the barracks. I feel that 72 square feet is a very good figure because I know in case of emergency, you will have a lot of short-time people in, that have been drafted or enlisted for the duration and they will put up with being uncomfortable because they know it is temporary. Double-bunking is perfectly satisfactory in that case.

NAVY ALLOWS MORE THAN 72 SQUARE FEET FOR NCO'S

Now, I think with your NCO's, you have got to give them more space, as a matter of prestige, as a matter of pride; the enlisted man has to have something to look forward to. He thinks, when I get promoted I am going to move down here where there are not so many people in a room and it is a little better deal for me. But once again, you can double-deck those people, too, and there is still the same relation, they are still relatively better off than enlisted men who are also double-bunked. So for permanent construction, I consider 72 as adequate. I certainly would not build permanent construction so small that you could not double-bunk them.

Mr. DONNELLY. For enlisted men. The qualification I understood you to make, for NCO's was something in excess of 72.

Admiral JELLEY. I would give them something in excess of 72.

Mr. DONNELLY. Does that apply to petty officer third class who compares to corporal in the Army?

Admiral JELLEY. I am confused as to what NCO is. It is not a Navy term. I consider the chief petty officers, the first-class and second-class petty officers as NCO's. I consider third-class petty officers and the various seaman ratings as being enlisted men.

Now, whether that is the definition of the Munitions Board for NCO or not; I do not know. But in my experience the break-off line is between second class and third class.

Mr. DONNELLY. We can reach that very easily by looking at these plans.

For 44 men, how many noncommissioned men are there in the Navy, petty officers?

Admiral JELLEY. I do not think we can tell that that way.

Mr. DONNELLY. You have 44 men in your standard criteria for barracks and in the NCO end of the wing, there are 12 petty officers for 44 enlisted men. They cannot all be chiefs.

Admiral JELLEY. You cannot tell from that, Mr. Donnelly, because the distribution of the trainees at a shore station will be artificial anyway. There are less enlisted men assigned to shore. Normally, an enlisted man has to be at sea for his first tour of duty.

A third-class petty officer is the same as a corporal in the Army.

I do not think in the Army a corporal is a NCO. Second class is the same as a sergeant. I agree a sergeant is an NCO.

I think we had better call the Bureau of Naval Personnel at lunch and find out what NCO is in the Navy.

Mr. DONNELLY. The reason it is important here is that you specify more than 72 square feet of space for petty officers. If it is more than 72 for the chief, that is different than for the petty officer third class who is commensurate with a corporal for example.

If you wanted to have a distinction so that when they get the rating of petty officer third class, if you want to give them something to look up to, why couldn't they be moved up to the front part of the wing so they don't have so far to walk instead of giving them a separate lounge and separate toilets, for example?

Admiral JELLEY. As I indicated earlier, we are now studying the entire matter, and will submit complete information in due time.

NAVY COMMENTS ON AIR FORCE PROPOSED BARRACKS

Mr. DONNELLY. Now we have the Air Force, 25 year permanent breakdown on space in front of us. Will you look at the breakdown of space column on page 2 which starts out with 72.1 square feet per man, shows the various other space items which are allocated, and states the total at the bottom of 121 square feet per man, gross area exterior dimensions. Have you any comments to make with respect to the feasibility of that space allocation for enlisted men in the Navy?

Admiral JELLEY. I would like, of course, to have more time to analyze it, but offhand, I noticed the lounging space is reduced from 14.82 square feet to 10.8 square feet.

We could eliminate it entirely, of course, but you have to give these boys some room to sit around and spread out in. You do not want to confine them to their bunks and lockers.

Mr. DONNELLY. It is not being eliminated. It is here and being accounted for. The committee engineers tried to do a real objective job in this space analysis.

Admiral JELLEY. I think Mr. Davis put his finger on it yesterday: how many use the lounge space and how many go off to town or how many of them are on watch and leave and cannot use it? The use factor should be determined as to just how many will use the lounge spaces at any one time. That would have to be determined.

I notice that personal storage space is eliminated entirely. We could not do that. Each enlisted man has his sea bag and we give him small lockers and provide a bag room in the barracks for the stowing of sea bags. It would mean either putting in more lockers or larger lockers, and taking the sea bags away from them and turning them in. That would take some study.

Corridors are reduced from—the Air Force increased the corridors from 9.39 to 17.9.

Mr. DONNELLY. The chairman suggested that perhaps the storage is in the corridors.

Mr. RILEY. I wonder whether the Air Force used part of the corridors for storage?

Mr. FURCOLO. They have another space listed down of 5.1.

Admiral JELLEY. That gives us about 8 square feet to play with per man and that could be taken up in storage space in a separate room.

Mr. DONNELLY. On storage space to clarify, we have had a lot of trouble with the services with what they call storage space. This itemization shows three categories, personal storage space, other storage space, and other space. And there has not been any uniformity of any kind as to those three items, so we put in all three to cover any possible use by the services.

Admiral JELLEY. The Air Force has provided space for laundry, which the Navy calls a scrub deck.

CLOTHES WASHING FACILITIES

Mr. DONNELLY. On laundry, may I point this out: As we understand, automatic washers are being put in some Navy barracks for laundry purposes. If that is so, what effect would this have on the space provision for scrub decks?

Admiral JELLEY. Scrub deck is a place, usually a little higher than this table with a spigot and hot and cold water. A man goes there and gets after his uniform and skivvies and so forth with a scrub brush. Whether they are using automatic washers or not I do not know of my own knowledge. We will have to check and find out.

Of course, automatic washers and dryers might possibly eliminate need for some of the space and also eliminate in part the need for racks and walls if you put in electric dryers.

Mr. DONNELLY. When we are talking about space in building, we are talking about money, aren't we?

Admiral JELLEY. I remember now, I have run into separate buildings with automatic washers installed, with I think, a 10-cent or a 25-cent meter on it that was operated by Ships Service or one of their recreation activities. I do not think that automatic washers are installed in barracks. But we will run that down definitely.

(NOTE.—The Navy subsequently supplied the following explanation data:)

USE OF AUTOMATIC WASHING MACHINES

Automatic type washers have been installed at some naval stations on a coin pay basis under the management of the Navy Exchange (Bureau of Supplies and Accounts). Such installations are made by commercial concerns on the basis of bids taken by the Navy Exchange officer at the location. The machines are furnished, connected and maintained by the successful bidder, and a percentage of the profits goes to Navy Exchange funds. Examples of locations at which such installations have been made are Corpus Christi, Pensacola, and Newport.

Washing machines have been installed at Guam and Adak, outside the continental limits of the United States, in enlisted men's barracks, and within the continental limits, in WAVES' barracks under appropriated funds.

It is not believed that any space economy is achieved as compared with scrub decks, nor would there be any economy from the standpoint of piping and electrical conduit and wiring. Further, in the case of recruits, the use of scrub decks for washing clothes is an essential part of training.

From an economic standpoint, it is believed that maintenance costs of automatic washers and dryers, particularly with regard to replacement of moving parts, would tend to be high.

The furnishing and maintenance of such equipment on a coin pay basis by concessionaires or bidders is encouraged and is done at many stations.

D. B. VENTRES,
Captain, CEC, USNR,
Liaison Officer.

SPACE FOR STAIRS

Well now, here is a major reduction, and I do not see how they do it offhand, reduce stairs from our 6.40 to 1.4.

Mr. DONNELLY. This is for a three-story building, too.

Admiral JELLEY. After all there is a reason for those stairs, it is to get out in case of fire, to get the men in and out of the building quickly in their normal duties. You have to have an entrance in the center and one at each end to avoid getting men trapped. It may be that they are using a central stairway with a fire escape arrangement on the ends. Don't you think, Mr. Sullivan, that stair business would take considerable study?

Mr. SULLIVAN. We provide stairs at either end of the building so that no one can ever get trapped. We follow the code of the National Board of Fire Underwriters. I do not see how you can explain that one point two if you are going to have adequate stairs.

POSSIBLE UNIFICATION OF BARRACKS DESIGN

Mr. DONNELLY. I wonder if there is some way that the Munitions Board over in the Pentagon, by way of unification, could pick up this matter the committee is considering now, and get amelioration of views of the Navy and the other two services and see whether we could come up with a standard that would give Congress a criterion.

Admiral JELLEY. I will certainly check with our construction section—will you make a note of that—I will check with our construction section.

FURTHER NAVY COMMENTS ON PROPOSED AIR FORCE BARRACKS

Now, they knock out the master-at-arms office entirely. Administrative space. They knock out pipe space entirely. They reduce wall and partition space.

I would regard wall and partition space and stair space as things you cannot fool with. Maybe our arrangement is wrong. The

biggest difference, of course, is in the area per man per sleeping rooms, 81.2 to 72. They do not have linen storage which is another foot.

Mr. FURCOLO. The sleeping space of 72 feet for Air Force does not seem to correspond to the sleeping space you have perhaps because you also have the NCO's in yours. I do not know whether the Air Force in their 72 have included whatever they would mean by NCO, but if that Air Force figure is only enlisted men that might make a difference.

Admiral JELLEY. Did they compute this on the basis of individual rooms, Mr. Donnelly, or dormitories?

Mr. DONNELLY. These are on dormitories.

Admiral JELLEY. If you have individual rooms you could set aside a section as being NCO room. Do you have Army, too?

PROPOSED AIR FORCE PERMANENT WOOD FRAME BARRACKS

Mr. DONNELLY. Yes, I wanted to give the committee the benefit of several types of comparisons. This one has been Air Force, 25-year three-story concrete frame with concrete block curtain walls and utility room in basement. There is a drawing number (21–01–78) here for future information.

Admiral JELLEY. That drawing number will help us track it down.

Mr. DONNELLY. Now the next one we have is Air Force, 25-year life, two-story wood frame with utility room in the basement, and the figures run along pretty much the same with some slight difference in the total, the gross area is 120.1. May this breakdown be inserted here, Mr. Chairman?

Mr. RILEY. It will be inserted at this point.

(The breakdown is as follows:)

AIR FORCE, 1952 PROGRAM—DATA SHEET ON BARRACKS

1. Location of unit and using agency: To be built at various locations. (See enclosure No. 2.) United States Air Force.
2. Classification and description of construction: 25-year life, 2-story, wood frame, utility room in basement, Drawing No. 21–01–72.
3. Date of construction contract and contract number.
4. Number of similar buildings: See enclosure No. 2.
5. Number of sleeping rooms for building: 49.
6. Gross area, outside dimensions (give breakdown in item 11): 16,509 square feet.
7. Construction cost: [1] $151,938.
8. Cost per square foot: $9.17.
9. Rated capacity (based on average space allowance of 72 square feet per man): 133 men.
10. Cost per man based on rated capacity: $1,141.
11. Analysis of space:

Type: 25-year life.

Does barracks house heating boiler: No.

[1] If job not yet completed, use latest estimate and so indicate (excluding Government costs, AE costs, and utilities beyond a 5-foot line and including any Government-furnished equipment except movable furniture).

Type of space per building	Area (square feet)	
	Gross	Per man [1]
Sleeping rooms (including closets accessible from such rooms)	9,570	72.0
Lounge space	1,530	11.5
Toilets and janitors' closets	1,258	9.5
Personal storage space	None	
Other storage space	None	
Corridors	2,275	17.0
Laundry	258	1.9
Linen and game storage space	None	
Stairs (horizontal projection)	188	1.4
Heating and mechanical equipment	249	1.9
Mess and kitchen space	None	
Administrative space	None	
Classroom space	None	
Other space (specify)—Pipe shafts	183	1.1
Wall and partition space to balance with gross area given in item 6	997	7.8
Total	16,509	124.1

[1] Based on rated capacity.

12. Total basement area included in the above: 305 square feet.

NOTES.—All areas on this page to be computed on basis of inside dimensions. Exclude attic and crawl space. Each sheet to contain only data applicable to a multiple of building of the same design under the same contract.

Mr. DONNELLY. Cost per man is shown on page 1 of each one of these charts. For 25-year life wood frame, the cost is $1,101 per man. And for the three-story concrete building it is $1,221. And both of those cost figures per man are sizably less than Navy standard design criteria.

Admiral JELLEY. I think I explained that yesterday when I said that our difficulty was that we were building small buildings that cost more per man. I believe this question came up in the hearing last year, Mr. Chairman, about the difference between permanent construction and temporary construction. Here is a wooden-frame building as against a concrete-frame building. One of them costs $1,101 per man; the other $1,221 per man. For less than 10-percent increase in price you get reinforced concrete instead of wood frame.

Mr. RILEY. We had quite an extensive discussion last year with all the services on whether or not it was economical to build these concrete-block buildings with pilasters or to build wood-frame buildings. And, from what study we have made of it, we are pretty much of the opinion, I believe, that in the over-all it is cheaper to put in the masonry construction than it is this wood construction.

Admiral JELLEY. I would agree with that.

Mr. RILEY. Off the record.

(Discussion off the record.)

PROPOSED AIR FORCE SEMIPERMANENT BARRACKS

Mr. DONNELLY. To carry out the chairman's thought here, we have now the next chart a comparison between 25-year life and 10-year life, and we find that the cost per man for the 10-year life is very negligibly less than the cost per man for the 25-year life. I would like to place this breakdown in the record.

Mr. RILEY. It will be inserted here.

(The breakdown is as follows:)

AIR FORCE, 1952 PROGRAM—DATA SHEET ON BARRACKS

1. Location of unit and using agency: To be built at various locations. (See enclosure 2.) United States Air Force.
2. Classification and description of construction: 10-year life, 2-story wood frame, utility room in basement, drawing No. 21–01–72.
3. Date of construction contract and contract number.
4. Number of similar buildings: See enclosure No. 2.
5. Number of sleeping rooms for building: 49.
6. Cross area, outside dimensions (give breakdown in item 11): 16,509 square feet.
7. Construction cost:[1] $142,162.
8. Cost per square foot: $8.61.
9. Rated capacity (based on average space allowance of 72 square feet per man): 133 men.
10. Cost per man based on rated capacity: $1,069.
11. Analysis of space:

Type: 10-year life.

Does barracks house heating boiler: No.

Type of space per building	Area (square feet)	
	Gross	Per man[1]
Sleeping rooms (including closets accessible from such rooms)	9,570	72.0
Lounge space	1,530	11.5
Toilets and janitors' closets	1,258	9.5
Personal storage space	None	
Other storage space	None	
Corridors	2,275	17.0
Laundry	258	1.9
Linen and game storage space	None	
Stairs (horizontal projection)	188	1.4
Heating and mechanical equipment	249	1.9
Mess and kitchen space	None	
Administrative space	None	
Classroom space	None	
Other space—Pipe shafts	183	1.1
Wall and partition space to balance with gross area given in item 6	997	7.8
Total	16,509	124.1

[1] Based on rated capacity.

12. Total basement area included in the above: 305 square feet.

NOTES.—All areas on this page to be computed on basis of inside dimensions. Exclude attic and crawl space. Each sheet to contain only data applicable to a multiple of buildings of the same design under the same contract.

[1] If job not yet completed, use latest estimate and so indicate (excluding Government costs, AF costs, and utilities beyond a 5-foot line and including any Government-furnished equipment, except movable furniture).

Mr. RILEY. I believe lumber is at an all-time high, is that right? Your procurement experience shows that lumber is at an all-time high and there was a period when you could build out of frame for considerably less than masonry. The comparable costs now are pretty close together.

Admiral JELLEY. Off the record.

(Discussion off the record.)

Mr. DONNELLY. I think the committee would be interested in the construction cost comparison between the 10-year life and the 25-year life. We have for the 10-year life, two-story wood, $142,162. And then for the exact same dimensions and the number of men housed in the 25-year life we have $151,938. This would seem to indicate that the permanent construction is far more economical.

Admiral JELLEY. In the long run.

Mr. DONNELLY. Over semipermanent. The maintenance cost is less.

Admiral JELLEY. During the war, as a result of the shortages of structural steel we built about 10 blimp hangars out of wood. They were the largest wooden buildings in the world. You may have seen some of those, they were tremendous. The cost of just going over every 6 months and a year and tightening up the bolts was tremendous. They soon became white elephants because we did not have the money to keep them up.

Mr. DONNELLY. To complete the comparison on the Air Force before we pass to the Army, I have for the record Air Force, three-story concrete frame, 10-year life, semipermanent. And the number of men in this structure is the same as the 25-year life.

Mr. RILEY. It will be inserted at this point.

(The breakdown is as follows:)

AIR FORCE, 1952 PROGRAM—DATA SHEET ON BARRACKS

1. Location of unit and using agency: To be built at various locations (see enclosure No. 2)—United States Air Force.
2. Classification and description of construction: 10-year life, three-story concrete frame with concrete block curtain walls; utility room in basement; drawing No. 21-01-78.
3. Date of construction contract and contract number.
4. Number of similar buildings: See enclosure No. 2.
5. Number of sleeping rooms for building: 73.
6. Gross area outside dimensions (give breakdown in item 11): 25,386 square feet.
7. Construction cost: [1] $244,739.
8. Cost per square foot, $9.64.
9. Rated capacity (based on average space allowance of 72 square feet per man): 200 men.
10. Cost per man based on rated capacity: $1,224.
11. Analysis of space:

Type: 10-year life.

Does barracks house heating boiler? No.

Type of space per building	Area (square feet)	
	Gross	Per man [1]
Sleeping rooms (including closets accessible from such rooms)	14,404	72.0
Lounge space	2,235	11.2
Toilets and janitors' closets	1,810	9.1
Personal storage space	None	
Other storage space	None	
Corridors	3,148	15.7
Laundry	522	2.6
Linen and game storage space	None	
Stairs (horizontal projection)	657	3.3
Heating and mechanical equipment	249	1.2
Mess and kitchen space	None	
Administrative space	None	
Classroom space	None	
Other space—Pipe shafts	183	1.4
Wall and partition space to balance with gross area given in item 6	2,178	10.4
Total	25,386	126.9

[1] Based on rated capacity.

12. Total basement area included in the above: 305 square feet.

NOTES.—All areas on this page to be computed on basis of inside dimensions. Exclude attic and crawl space. Each sheet to contain only data applicable to a multiple of buildings of the same design under the same contract.

[1] If job not yet completed, use latest estimate and so indicated (excluding Government costs, AE costs, and utilities beyond a 5-foot line and including any Government-furnished equipment except movable furniture).

Admiral JELLEY. The last three have been the same. There is a slight difference between permanent and semipermanent. I am confused between this one and the other one you gave us. For 25-year life, three-story concrete frame with concrete-block curtain walls; then, three-story concrete frame with concrete-block curtain walls for 10-year life. Once again, how can you make a 10-year building with concrete frame?

Mr. DONNELLY. I believe that "10-year" is hypothetical. This is all that the Air Force plans to do. They may have had some notion of how to make a 10-year life with concrete frame. I do not know the answer to that.

Admiral JELLEY. They might take higher allowable unit stresses in their steel when they design it. We have already gone to that as a matter of fact and cut down our safety factor in steel design.

ARMY-PROPOSED BARRACKS

Mr. DONNELLY. Now, we have a basis upon which to compare the Army with the Air Force. In order to make the record complete and identify this next document, I have the transmittal letter, and its enclosure which explains the areas to be deducted from permanent Army barracks in order to be comparable to the Air Force, 25-year-life dormitories. And I think I will pass it at this time before we look at the Army breakdown, to explain the deductions. This is by way of explanation. The enclosure to the letter identifies drawings as we see, and identifies square-foot area for various items on the costs.

Mr. RILEY. The letter and enclosure will be inserted here.

(The documents are as follows:)

DEPARTMENT OF THE ARMY,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, D. C., November 2, 1951.

FREDERIC D. VECHERY,
Chief, Investigative Staff,
Committee on Appropriations, House of Representatives,

DEAR MR. VECHERY: Reference is made to our letter of October 30, 1951, transmitting barracks studies for 11 districts.

Transmitted herewith are the remaining reports for the following districts:

New York, N. Y.	Tulsa, Okla.
Seattle, Wash.	Galveston, Tex.
New England (division).	Louisville, Ky.
Jacksonville, Fla.	Little Rock, Ark.
Washington, D. C.	Fort Worth, Tex.
Mobile, Ala.	Albuquerque, N. Mex.

Also forwarded herewith, as requested by your Mr. Radley, are drawings for standard Army and Air Force barracks and a tabulation showing per-man areas to be deducted from permanent Army barracks in order to be comparable with 25-year-life Air Force dormitories.

Sincerely yours,

McD. D. WEINERT,
Colonel, Corps of Engineers,
Chief, Engineering Division, Military Construction.

Areas to be deducted from permanent Army barracks in order to be comparable to USAF 25-year life-dormitories

	Square feet	Cost per square foot	Total
263-man Army permanent barracks, Dwg. No. 21-01-64:			
Company storage	9.1	$7.13	$64.88
Heating and mechanical equipment	5.0	13.50	67.50
Mess and kitchen space	17.5	11.38	199.15
Administrative	3.0	8.58	25.74
Classroom space	4.7	8.58	40.33
Exterior walls	1.7	8.58	14.58
Total	41.0	10.05	412.18
New area and cost per man	110.3	9.38	1,035.00
198-man Army permanent barracks, Dwg. No. 21-01-67:			
Company storage	9.7	7.13	69.16
Heating and mechanical equipment	6.6	13.50	89.03
Mess and kitchen space	21.6	11.38	246.01
Administrative	3.6	8.58	30.90
Classroom space	9.6	8.58	82.37
Exterior walls	2.2	8.58	18.88
Total	53.3	10.00	536.35
New area and cost per man	115.6	9.34	1,080.00
124-man Army permanent barracks, Dwg. No. 21-01-67:			
Company storage	15.1	7.13	107.66
Heating and mechanical equipment	12.9	13.50	174.15
Mess and kitchen space	24.4	11.38	277.67
Administrative	3.6	8.58	30.89
Classroom space	9.7	8.58	83.23
Exterior walls	3.5	8.58	30.03
	69.2	10.16	703.63
New area and cost per man	123.2	9.22	1,136.00

Admiral JELLEY. This letter does not say the Army is going to do this?

Mr. DONNELLY. It does not.

Admiral JELLEY. Areas deducted to make them comparable to the Air Force.

Mr. DONNELLY. That is right. I wanted to have it here so that before we get into Army we can see which items should be deducted.

However, through the protocol that we have used we have tried to make certain that everything that we obtained from the Army and the Air Force was official; that what we have looked at for Air Force and what we will look at for the Army is their official intentions.

With that as an explanatory note I would like to pass out the Army's intentions.

Admiral JELLEY. We have drawing numbers on this. We won't need any other names, Mr. Donnelly. We can get this information from Army and the Air Force through the drawing numbers.

Mr. DONNELLY. That is fine.

PROPOSED ARMY BARRACKS FOR 198 MEN

Now, we have, first, for the Army permanent three-story with basement, reinforced concrete frame, housing 198 men, and the explanatory note in the document just handed you will explain why on page 2 there is a deduction of 53.3 feet. So that Army square footage area comparable to the Air Force is 115.6 feet which is five less in gross area.

Mr. RILEY. The Army breakdown will be inserted at this point.

(The Army breakdown is as follows:)

ARMY, 1952 PROGRAM—DATA SHEET ON BARRACKS

1. Location of unit and using agency: To be built at various locations. (See inclosure No. 1), United States Army.
2. Classification and description of construction: Permanent, 3-story with basement, reinforced concrete frame with concrete block curtain walls, drawing No. 21-01-67.
3. Date of construction contract and contract number.
4. Number of similar buildings: See enclosure No. 1.
5. Number of sleeping rooms for building: 23 rooms plus 5 squad rooms.
6. Gross area—outside dimensions (give breakdown in item 11): 33,450 square feet.
7. Construction cost: [1] $319,904.
8. Cost per square foot: $9.56.
9. Rated capacity: (Based on average space allowance of 72 square feet per man), 198 men; nominal capacity: 165 men.
10. Cost per man based on rated capacity: $1,616.
11. Analysis of space:

Type: Permanent.

Does barracks house heating boiler? Yes.

Type of space per building	Area (square feet)	
	Gross	Per man [1]
Sleeping rooms (including closets accessible from such rooms)	14,252	72.0
Lounge space	1,665	8.4
Toilets and janitors' closets	1,909	9.6
Personal storage space	None	
Other storage space, company	1,917	9.7
Corridors	2,254	11.4
Laundry	None	
Linen and game storage space	None	
Stairs (horizontal projection)	908	4.6
Heating and mechanical equipment	1,749	8.8
Mess and kitchen space	4,275	21.6
Administrative space	717	3.6
Classroom space	2,219	11.2
Other space (specify)	None	
Wall and partition space to balance with gross area given in item 6	1,585	8.0
Total	33,450	168.9
		[2] —53.3
		115.6

[1] Based on rated capacity.
[2] Area deducted by Corps of Engineers from Army barracks in order to be comparable with USAF barracks.

12. Total basement area included in the above: 4,105 square feet.

NOTE.—All areas on this page to be computed on basis of inside dimensions. Exclude attic and crawl space. Each sheet to contain only data applicable to a multiple of buildings of the same design under the same contract.

[1] If job not yet completed, use latest estimate and so indicate (excluding Government costs, AE costs and utilities beyond a 5-foot line and including any Government-furnished equipment except movable furniture).

In the next one which I have here——

Admiral JELLEY. Would you want to look at this one first?

Mr. DONNELLY. Yes; surely.

Admiral JELLEY. This middle one on this sheet, areas to be deducted, 198-man permanent barracks. You see, the Army has added in 9.7 square feet for company storage which neither the Navy or the Air Force allowed. They deducted that. Does that mean that they intend to omit them entirely, Mr. Donnelly, or are just showing that they have to have company storage and they should not be compared to Air Force and Navy?

Mr. DONNELLY. That is provided per man.

Admiral JELLEY. I am puzzled. Is Army going to build a building with 168 square feet or 115 square feet? They have eliminated their company storage.

Mr. DONNELLY. They are going to build a building with 168 square feet, and then we look at this explanatory note in the middle for the 198-man Army permanent barracks. Those items that are listed there in the explanatory note are not included in the standard Air Force barracks, so to get a fair basis of comparison, one against the other, we have deleted those items from the Army calculations to make it commensurate with the Air Force calculations.

Admiral JELLEY. Are you going to let them get away with 168 square feet while you are talking about stairs and our personal storage space? Can't we make up a similar compilation and say that we do not think that they are comparable to Army and Air Force barracks and say they should be deducted, too?

Mr. DONNELLY. You notice, in area, the classroom figure is 82.7 space. Navy barracks do not have classroom space.

Admiral JELLEY. We did at Memphis.

Mr. DONNELLY. Memphis had study space in barracks, not classroom space.

Admiral JELLEY. Here is another one. Take a look at heating and mechanical equipment. The Navy has 1 foot. The Air Force has 1.2 feet. The Army has 8.8 feet; yet they say 6.6 is deducted. Now, even with deductions, that still puts them double the Navy and the Air Force. Why should they deduct any? Heating and mechanical should be the same for all three.

Mr. DONNELLY. You have for example, at Memphis, a central heating plant. You do not have a heating plant in each of your barracks.

Admiral JELLEY. They go back to the central heating and take so many square feet for men on the whole post.

Mr. DONNELLY. In that case it does, but the Navy, as I understand it, does the same thing.

Admiral JELLEY. So this thing, 6.6—they have an individual heating unit for that building. The Air Force barracks and the Navy barracks are usually piped from a central plant and just need regulating valves and things like that in a small room. The Army is figuring on having maybe a stoker-fed boiler, oil-burning boiler, or something like that? I can understand that. I am sure that is the explanation.

Mr. DONNELLY. We have to get some basis of comparison to be fair to the three services and to get some unification standard. That has struck us as being a fair way to approach it.

Admiral JELLEY. Under administrative space, we have a master at arms office. He is the fellow who keeps order. The Air Force omits that entirely. The Army puts in 3.6 for administrative space, and they deduct all of that. It would be fair for us to deduct the one for master at arms office if we feel that master at arms is essential to the proper operation of the barracks.

Mr. DONNELLY. I see it. Administrative space, master at arms office, and you have 1 foot per man.

Admiral JELLEY. I am asking these questions because you have given us a goal; namely, to get down to 120 square feet. I am trying

to get clear in my mind just what the other two services have done to get down to 120 square feet.

Mr. DONNELLY. The explanation would probably be lengthy, and I think it would be a matter that could better be adjusted by your engineers with the Air Force engineers and the Army engineers among yourselves over in the Department of Defense. This is to give the committee members the benefit of what might be accomplished. And the goal set on this big chart of 72 feet sleeping space and 48 feet extra space may be the goal. Apparently the Air Force and the Army have reached something commensurate with it.

(NOTE.—Subsequently the Army supplied an explanation which is printed in the appendix at p. 363.)

Mr. RILEY. We will recess until 2 o'clock.

AFTER RECESS

Mr. RILEY. The committee will be in order.

Mr. Donnelly, you may proceed.

Mr. DONNELLY. At the recess we were looking at the space analysis of the Army, and, in view of one of Admiral Jelley's observations, I would like to invite the attention of the committee to the large chart [printed above at pp. 8–9] and point out the footnote to the number of square feet per man provided in the first column, in which the gross area has been adjusted to omit kitchens, dining rooms, classrooms, and administrative space. The footnote down below is explanatory.

I think also, in the light of the admiral's observations, it would be appropriate to have printed in the record at the point where the chart itself was inserted yesterday this memorandum which is adverted to in footnote No. 1, which you will note states that detailed explanation is set forth in a separate memorandum. Here is the memorandum itself.

The purpose of that explanatory memorandum is to illustrate that the committee's engineers have no pride of authorship and have not sought to be arbitrary in their usage of the 120 square feet per man. Their own findings as to that figure are supported by the concurrent findings of the Army and of the Air Force, and those are the detailed figures that the committee has been examining.

PROPOSED ARMY BARRACKS FOR 263 MEN

The next breakdown is that of Army for permanent, 3-story barracks with basement for 263 men as distinguished from the number of men that we were examining at the recess for the Army, which was 198 men.

(The document referred to is as follows:)

ARMY, 1952 PROGRAM—DATA SHEET ON BARRACKS

1. Location of unit and using agency: To be built at various locations. (See enclosure No. 1.) United States Army.
2. Classification and description of construction: Permanent, 3-story with basement, reinforced-concrete frame with concrete-block curtain walls, drawing No. 21–01–64.
3. Date of construction contract and contract number.
4. Number of similar buildings: See enclosure No. 1.
5. Number of sleeping rooms for building: 28 rooms plus 5 squadrooms.
6. Gross area, outside dimensions (give breakdown in item 11): 39,789 square feet.
7. Construction cost: [1] $380,535.

[1] If job not yet completed, use latest estimate and so indicate (excluding Government costs, AE costs, and utilities beyond a 5-foot line and including any Government-furnished equipment except movable furniture).

8. Cost per square feet: $9.56.
9. Rated capacity (based on average space allowance of 72 square feet per man): 263 men; nominal capacity, 225 men.
10. Cost per man based on rated capacity: $1,447.
11. Analysis of space:
Type: Permanent.
Does barracks house heating boiler: Yes.

Type of space per building	Area (square feet)	
	Gross	Per man [1]
Sleeping rooms (including closets accessible from such rooms)	18,913	71.9
Lounge space	1,206	4.6
Toilets and janitors' closets	2,358	9.0
Personal storage space	None	
Other storage space, company	2,381	9.1
Corridors	2,440	9.3
Laundry	None	
Linen and game storage space	None	
Stairs (horizontal projection)	942	3.6
Heating and mechanical equipment	1,643	6.2
Mess and kitchen space	4,610	17.5
Administrative space	791	3.0
Classroom space	2,665	10.1
Other space (specify)	None	
Wall and partition space to balance with gross area given in item 6	1,840	7.0
Total	39,789	151.3
		[2]—41.0
		110.3

[1] Based on rated capacity.
[2] Area deducted by Corps of Engineers from Army barracks in order to be comparable with USAF barracks.

12. Total basement area included in the above: 4,514 square feet.

NOTES.—All areas on this page to be computed on basis of inside dimensions. Exclude attic and crawl space. Each sheet to contain only data applicable to a multiple of buildings of the same design under the same contract.

Mr. DONNELLY. The sleeping area per man is 71.9 square feet, which is a shade under the 72 square feet permitted by the Munitions Board. The gross area at the bottom of the column, 110.3, is the smallest that we have seen yet.

PROPOSED ARMY BARRACKS FOR 124 MEN

We have one further itemization of space analysis from the Army for comparison purposes, and that is a permanent three-story barracks with basement, reinforced concrete frame with concrete block curtain walls, for 124 men.

(The document referred to is as follows:)

ARMY, 1952 PROGRAM—DATA SHEET ON BARRACKS

1. Location of unit and using agency: To be built at various locations. (See enclosure No. —) United States Army.
2. Classification and description of construction: Permanent, three-story with basement, reinforced concrete frame with concrete block curtain walls, drawing No. 20-01-68.
3. Date of construction contract and contract number.
4. Number of similar buildings: See enclosure No. 1.
5. Number of sleeping rooms for building: 13 rooms plus 5 squad rooms.
6. Gross area, outside dimensions (give breakdown in item 11): 23,860 square feet.

7. Construction cost: [1] $228,161.
8. Cost per square foot, $9.56.
9. Rated capacity: (Based on average space allowance of 72 square feet per man) 124 men; nominal capacity, 105 men.
10. Cost per man based on rated capacity: $1,840.
11. Analysis of space:
Type: Permanent.
Does barracks house heating boiler: Yes.

Type of space per building	Area (square feet)	
	Gross	Per man [1]
Sleeping rooms (including closets accessible from such rooms)	8,940	71.8
Lounge space	1,054	8.5
Toilets and janitors' closets	1,483	12.0
Personal storage space	None	
Other storage space, company	1,874	15.1
Corridors	1,695	13.7
Laundry	None	
Linen and game storage space	None	
Stairs (horizontal projection)	956	7.7
Heating and mechanical equipment	1,749	14.1
Mess and kitchen space	3,022	24.4
Administrative space	452	3.6
Classroom space	1,391	11.2
Other space, specify	None	
Wall and partition space to balance with gross area given in item 6	1,280	10.3
Total	23,860	192.4
Area deducted by Corps of Engineers from Army barracks in order to be comparable with USAF barracks		−69.2
Adjusted total		123.2

[1] Based on rated capacity.

12. Total basement area included in the above: 4,103 square feet.

NOTES.—All areas on this page to be computed on basis of inside dimensions. Exclude attic and crawl space. Each sheet to contain only data applicable to a multiple of buildings of the same design under the same contract.

[1] If job not yet completed, use latest estimate and so indicate (excluding Government costs, AE costs, and utilities beyond a 5-foot line and including any Government-furnished equipment except movable furniture).

Mr. DONNELLY. Now, note that for the 124 men, which is the figure closest to the Navy standard of 100 men, the gross area per man is 123.2 square feet, slightly in excess of the 120 square feet per man.

Now, having examined the intentions of the Army and of the Air Force, we can now pass to the intentions of the Navy as expressed to the committee staff last November, I am advised; and I have the figures here.

CODE SYMBOL FOR DELAY AT MEMPHIS

At this point in the record it might be well for Mr. Glenn to give us his explanation of the code symbol 32 in the Memphis completion schedule.

Mr. GLENN. That was for inclement weather. That is the code. We have a sheet showing the different codes for different delays. That was for inclement weather.

Mr. DONNELLY. We can have a footnote on that document saying "inclement weather".

Mr. GLENN. Yes, sir.

Committee's Requests for Data

Mr. Donnelly. Admiral, we have requested the Bureau to supply certain data, and some of these requests were made as much as 10 or 12 days ago. We have reached the point in the hearings where they are needed, and we have been told from day to day that they would be here tomorrow, but so far they have not been supplied. Can you give us any idea when we may have them?

Admiral Jelley. Will you read them off one by one, please.

Mr. Donnelly. The first is the progress photographs for the Memphis barracks and other buildings, which request was made fully 12 days ago.

Mr. Patterson. Those photographs are at the Anacostia Air Station. We telephoned them again this morning for the photographs.

Mr. Donnelly. Next are the photographs of the aircraft maintenance building at Jacksonville, Fla.

Mr. Patterson. We called there this morning again for those, and they promised to send them up.

Mr. Donnelly. Did you call Jacksonville?

Mr. Patterson. Yes.

Mr. Donnelly. Is it taking them a week or more to supply those?

Mr. Patterson. We don't know. They faithfully promised them.

Mr. Donnelly. Item No. 3 is photographs of the officers candidate mess at Corry Field.

Mr. Patterson. Those have also been telephoned for.

Mr. Donnelly. Item No. 4 is the curve chart showing the obligations negotiated as against those advertised and as against those on cost-plus-a-fixed-fee contract basis.

Mr. Patterson. I understood that Captain Ventres has given you the revised chart. We had the original, but that was not in quite the form you wanted. We will check on that, but we understood you have that one.

Mr. Donnelly. We had the one which he and I reviewed and decided should be redrawn. We understood the revised one was to be in not later than yesterday morning.

Mr. Patterson. We will have to check on that.

Mr. Donnelly. I don't want to do an injustice to Captain Ventres. I understand he has been serving on a Navy Selection Board.

Mr. Patterson. That is right. He has two jobs.

Mr. Donnelly. Then the next item is an estimate of the cost of interior painting at Shumaker, Ark.

Mr. Patterson. I have that, but it is not in the form of a memorandum to the committee. That was available yesterday. You asked us to rewrite it in memorandum form. We got back too late last night to have a stenographer available to do the work.

Mr. Donnelly. When may we expect that?

Mr. Patterson. If I can get hold of someone tonight or in the morning, you will have that the first thing tomorrow morning.

Mr. Donnelly. The last item is a request that we made of the Bureau to recommend some proposed legislative language to restrict the gross area of barracks. I take it it will take some time to prepare that.

Admiral Jelley. I don't know whether we can supply that before the hearings are completed because it is something that has to clear

with BuMed and CNO. We are working on the problem of analyzing the various Navy barracks, and we will come up with a recommendation. However, we will have to clear that with BuPers, BuMed and CNO before we can send it to the committee. That will take a couple of weeks.

Mr. DONNELLY. But, in any event, before we finally print the hearings that material will be available?

Admiral JELLEY. If you are not going to need it before 2 weeks, I would say yes that you will have it.

Mr. DONNELLY. I believe the hearings will be printed before that time, and perhaps it would be available then for the committee's report?

Admiral JELLEY. All right.

Mr. DONNELLY. Admiral, you have indicated that with respect to the noncommissioned officers category you intend to make a check. I will just note for the record at this point that the standard design criteria of 1948 show 88 enlisted men and 12 noncommissioned officers. I am referring to the documents supplied the committee by the Bureau giving us a breakdown of the figures taken from the 1948 criteria. That is by way of reference.

Admiral JELLEY. I would like to say the following off the record.

(Discussion off the record)

BARRACKS FOR NAVY 1952 PROGRAM

Mr. DONNELLY. Back on the record. At the time the committee staff got these figures from the Army and the Air Force on what they intended to do in the way of barracks, a similar request was made of the Bureau of Yards and Docks; and in lieu of giving the committee staff a breakdown of what the Bureau proposed to do by way of arriving at some uniform standards, the Bureau supplied its data on individual barracks for which contracts had not as yet been awarded. I believe the committee would find it interesting to see the figures provided in these documents.

CIVILIAN BARRACKS AT SHUMAKER NAVAL ROCKET DEPOT

The first is for Shumaker, Ark.

With respect to the sleeping space contemplated for these barracks at Shumaker, there is 78 square feet per man allowed. For the total of the column for gross area, we have to look at footnote No. 3, because the division supplied us was incorrect. The correct computation is 153 square feet per man.

Admiral JELLEY. I would like to make an observation, Mr. Donnelly. This item is entitled "500-Man Barracks, Naval Ammunition Depot, Shumaker, Ark., Navy Department." I think the Bureau made a mistake. That is a misnomer. This is the 500-man civilian dormitory for Shumaker. It is not an enlisted men's barracks.

I do not recall that we had any funds to build an enlisted men's barracks at Shumaker. What makes me think that that is true is that there are going to be 182 sleeping rooms, and we are not putting enlisted men in sleeping rooms. This is not truly an enlisted men's barracks. It is a dormitory for civilian workers at Shumaker.

I do not think the Bureau should have furnished this to you as a barracks criteria. We have the same dormitories at Inyokern and Dahlgren.

Mr. PATTERSON. I recall that I was acting as liaison with staff investigators at the time this was furnished at the request of the staff investigators. At least at Inyokern we knew what we were going to build, and they were labeled as civilian barracks spaces.

You see, Shumaker is in a very isolated area, I mean relatively isolated.

Mr. DONNELLY. You say that it is isolated?

Mr. PATTERSON. Yes, relatively.

Mr. DONNELLY. The reason I ask that is because this site was selected because of its proximity to the town of Camden, Ark., was it not, sir?

Mr. PATTERSON. I can answer that Camden isn't too much.

Mr. DONNELLY. Was not this site selected because of the accessibility of water routes, railroad routes, and the proximity to the town?

Mr. PATTERSON. I can only furnish second-hand information. I was in the Bureau when this was selected, but there were many factors in the way of the selection of an area for this type of activity. As a rule, they do not build this kind of activity in a high residential area.

Admiral JELLEY. In any event, we justified to the committee last year the need for a 500-man civilian barracks.

Mr. DONNELLY. Mr. Patterson's observation was that this was in an isolated area, and what we are interested in here is the space being provided in a barracks.

Admiral JELLEY. I might say that I have been there. It is a desolate part of the country where you will put up these explosive storage buildings that might explode. Most of the area is a pine swamp. Camden has, I think, two or three thousand people. It has 2,300 people, I am informed. The city of Little Rock is about a 3-hour drive. Monroe, La., is about a 3-hour drive.

Mr. RILEY. Is this a classified project?

Admiral JELLEY. No, sir.

Mr. RILEY. What is the mission up there?

Admiral JELLEY. Shumaker is an ordnance plant for the manufacture of rockets, or rather for the assembly of rockets. All of the components are manufactured elsewhere and shipped to Shumaker for assembly and loading with explosives. In addition they have ammunition storage igloos and a range to test rockets.

Mr. RILEY. Thank you. Will you go ahead, Mr. Donnelly.

Mr. DONNELLY. We will go into Shumaker a little bit later in the hearings. I note that Shumaker was built in about 12 months on a cost-plus-a-fixed-fee contract in 1944 and 1945 at a sum that escapes me at the moment, but which I believe was about $20 million. Then with peace or with VJ-day, the operation shut down to a maintenance crew. Now it has been revived and there has been extensive work going on there. We will get into that a little bit later in the hearing.

(The document with reference to the civilian barracks at Shumaker, Ark., is as follows:)

DATA SHEET ON BARRACKS

1. Location of unit and using agency: Shumaker, Ark., 500-man barracks, naval ammunition depot, Shumaker, Ark., Navy Department.

2. Classification and description of construction: Permanent concrete frame brick exterior.

3. Date of construction contract and contract number: NOy–70989 (not awarded).

4. Number of similar buildings: No others.

5. Number of sleeping rooms per building: 182.
6. Gross area, outside dimensions (give breakdown in item 11): 76.686 square feet.
7. Construction cost: [1] $1,155,000 (estimated).
8. Cost per square foot: $15.
9. Rated capacity: 500.
10. Cost per man based on rated capacity: $2,310.
11. Analysis of space:

Type of space per building	Area (square feet)	
	Gross	Per man [1]
Sleeping rooms (including closets accessible from such rooms)	39,230	78
Lounge space	4,816	10
Toilets and janitors' closets	6,992	12
Personal storage space	1,861	4
Other storage space:		
Corridors	9,935	19
Laundry		
Linen and game storage space	1,026	2
Stairs (horizontal projection)	1,863	4
Heating and mechanical equipment	742	2
Mess and kitchen space		
Administrative space	441	1
Classroom space		
Other space, specify	9,783	2
Wall and partition space to balance with gross area given in item 6		
Total	76,689	(2)

[1] Based on rated capacity.
[2] The total of this column is 134 square feet. This is incorrect since 76,689 square feet of space for 500 men equals 153 square feet per man.

12. Total basement area included in the above.

NOTES.—All areas on this page to be computed on basis of inside dimensions. Exclude attic and crawl space. Each sheet to contain only data applicable to a multiple of buildings of the same design under the same contract.

[1] If job not yet completed, use latest estimate and so indicate (excluding Government costs, A. and E. costs, and utilities beyond a 5-foot line and including any Government-furnished equipment except movable furniture).

PROPOSED ENLISTED MEN'S BARRACKS AT DAVISVILLE, R. I., UNITED STATES NAVAL ADVANCED BASE DEPOT

Mr. DONVELLY. Now, Admiral, with respect to the barracks at Davisville, R. I., let me ask this off the record.

(Discussion off the record)

(The document with reference to the Davisville, R. I., United States naval advanced base depot is as follows:)

DATA SHEET ON BARRACKS

1. Location of unit and using agency: Davisville, R. I., United States naval advanced base depot.
2. Classification and description of construction: Permanent two-story masonry walls, floors, and roof.
3. Date of construction contract and contract number: No contract, project in planning stage.
4. Number of similar buildings: 10.
5. Number of sleeping rooms per building: 3.
6. Gross area—outside dimensions (give breakdown in item 11): 13,320 square feet.
7. Construction cost: [1] $176,000 (estimated).
8. Cost per square foot: $13.20 (estimated).

[1] If job not yet completed, use latest estimate and so indicate (excluding Government costs, A. and E. costs, and utilities beyond a 5-foot line and including any Government-furnished equipment except movable furniture).

9. Rated capacity: 100 men (150 men if double-bunked).
10. Cost per man based on rated capacity: $1,760 (estimated).
11. Analysis of space:
Type: Temperate climate.
Where built: Davisville, R. I.
Does barracks house heating boiler? No.
Number of similar buildings: 10.

Type of space per building	Area (square feet)		
	Gross	Per man [1]	
		Single-bunked	Double-bunked
Sleeping rooms (including closets accessible from such rooms)	8,120	81.2	54.1
Lounge space	1,500	15.0	10.0
Toilets and janitors' closets	1,160	11.6	7.8
Personal storage space	200	2.0	1.3
Other storage space	0	0	0
Corridors	920	9.2	6.1
Laundry	320	3.2	2.1
Linen and game storage space	100	1.0	.7
Stairs (horizontal projection)	280	2.8	1.9
Heating and mechanical equipment	0	0	0
Mess and kitchen space	0	0	0
Administrative space	120	1.2	.8
Classroom space	0	0	0
Other space—specify	0	0	0
Wall and partition space to balance with gross area given in item 6	600	6.0	4.0
Total	13,320	133.2	88.8

[1] Based on rated capacity.

12. Total basement area included in the above: None.

NOTES.—All areas on this page to be computed on basis of inside dimensions. Exclude attic and crawl space. Each sheet to contain data applicable to a multiple of buildings of the same design under the same contract.

PROPOSED ENLISTED MEN'S BARRACKS AT MIRAMAR, CALIF.

Mr. DONNELLY. Back on the record, with respect to the Naval Auxiliary Air Station at Miramar, Calif., those barracks are for enlisted men, are they not, Admiral?

Admiral JELLEY. They are.

Mr. DONNELLY. We will put this document into the record at this point. I have given a copy to each of the committee members.

(The document referred to is as follows:)

DATA SHEET ON BARRACKS

1. Location of unit and using agency: NAAS, Miramar, Calif.
2. Classification and description of construction: Permanent, reinforced concrete construction.
3. Date of construction contract and contract number: Award, October 11, 1951, NOy-27063 (specification 29063) (part of) drawings 522651 to 522656, 522689 to 522695.
4. Number of similar buildings: 10.
5. Number of sleeping rooms per building: 3.
6. Gross area—outside dimensions (give breakdown in item 11): 14,841.28.
7. Construction cost: [1] $190,000 per building—estimated from bids received.
8. Cost per square foot: $12.80.
9. Rated capacity: 100 man.
10. Cost per man based on rated capacity: $1,900.

[1] If job not yet completed, use latest estimate and so indicate (excluding Government costs, A. and E. costs, and utilities beyond a 5-foot line and including any Government-furnished equipment except movable furniture).

11. Analysis of space:
Type: Permanent construction.
Where built: NAAS, Miramar, Calif.
Does barracks house heating boiler: Yes—heater room.
Number of similar buildings: 10.

Type of space per building	Area (square feet)	
	Gross	Per man [1]
Sleeping rooms (including closets accessible from such rooms)	8,769.17	87.69
Lounge space	1,732.69	17.32
Toilets and janitors' closets	1,281.26	12.81
Personal storage space	196.47	1.96
Other storage space		
Corridors	879.05	8.79
Laundry	242.80	2.42
Linen and game storage space	152.40	1.52
Stairs (horizontal projection)	536.62	5.36
Heating and mechanical equipment	105.00	1.05
Mess and kitchen space		
Administrative space	107.94	1.70
Classroom space		
Other space (specify) pipe space, etc	16.82	.16
Wall and partition space to balance with gross area given in item 6	758.06	7.58
Total	14,841.28	148.36

[1] Based on rated capacity.

12. Total basement area included in the above: None.

NOTES.—All areas on this page to be computed on basis of inside dimensions. Exclude attic and crawl space. Each sheet to contain only data applicable to a multiple of buildings of the same design under the same contract.

Mr. DONNELLY. I would also like to insert in the record at this point excerpts from the hearings on the military public works appropriation for 1952 under the heading of "Barracks Spaces," appearing at pages 1051 and 1052. These excerpts relate to the proposed barracks at Miramar.

(The excerpts referred to are as follows:)

BARRACKS SPACES

Mr. SCRIVNER. What space are you anticipating assigning to the barracks, 60 or 72 feet?

Commander GIESEN. Lt. Comdr. Francis E. Giesen, public works officer, Naval Auxiliary Air Station, Miramar, Calif. The spaces allotted are 72 square feet basis.

Mr. SCRIVNER. If the Army and the Air Force can get along on 60 square feet, I see no reason why the Navy cannot do it out there.

Admiral JELLEY. According to the criteria——

Mr. SCRIVNER. I know that is not according to the criteria given by the Medical Department as the ideal, but it is just impossible to have the ideal situation, and the Air Force and the Army have told us that, in view of the strain we are putting on the taxpayers, they are going to squeeze in more people in the space they have and make it possible with the same number of buildings to accommodate more men, by cutting it down to 60. If the Army and Air Force can make that sacrifice and be short of the ideal criteria set down by the Medical Department—and I think it is 70 rather than 72—I do not see any reason why the Navy cannot do the same thing.

Captain COFFIN. We have housed more than that in the temporary space.

Mr. SCRIVNER. But we might as well face it, we are in an emergency. We are down to the bottom of the barrel. Dollars are getting harder to get every day.

Mr. DAVIS. There is one point I would like to clear up with respect to the barracks: Were you speaking of tearing down the frame buildings and rebuilding them?

Captain COFFIN. Yes sir; that is the long-range plan.

Mr. DAVIS. And am I correct, according to the justification here, in assuming that the frames would be the first you would have to move and relocate before you rebuild what you contemplate at that place?

Captain COFFIN. They would, based upon whether or not the original plan for space is carried out.

Mr. SIKES. In other words, you have a plan to relocate the base, but you are not bound to do it at this time. Is that the situation?

Admiral COMBS. Yes, sir; that is correct.

Mr. DAVIS. I did not get the answer.

Mr. SIKES. Admiral Combs said that is correct.

Mr. DAVIS. The price of the bachelor officer quarters is 7,000 as compared with some of them?

Mr. SIKES. I think we shall need further justification on these items.

Mr. DAVIS. Very well.

Mr. DONNELLY. Now, the committee members will note that the contract awarded for the construction of the Miramar barracks was in October 1951, in the month following the hearings themselves.

Do you have any comment on Miramar, Admiral?

Admiral JELLEY. I have no other comment other than that they seem to be about the same as our design criteria except that they show more space for sleeping rooms and a little more for lounge space. Otherwise they are fairly well in line.

Mr. DONNELLY. By sleeping rooms do you mean sleeping space per man?

Admiral JELLEY. Sleeping space per man, yes.

Mr. DONNELLY. Now, the next one is the barracks at the United States Naval Advance Base Depot at Davisville, R. I. Are those barracks for enlisted men?

NOTE.—The breakdown for Davisville is printed above, immediately preceding Miramar.

Admiral JELLEY. Those are for enlisted men. This is another one that is still in the planning stage. They have not started the construction of these.

Mr. DONNELLY. There we get a comparison between single bunk and double bunk arrangements. Have you any comments on those figures, Admiral?

Admiral JELLEY. If the barracks are actually designed as were planned when this information was furnished, they would be providing about 10 square feet per man lower than our criteria. I notice that the amount allowed for stairways is somewhat less and that the amount allowed for walls and partition space is somewhat less. Otherwise, they are about in line with our criteria.

PROPOSED ENLISTED MEN'S BARRACKS FOR NAVAL AIR STATION, OCEANA, VA., AND NAVAL AUXILIARY AIR STATION, CHINCOTEAGUE, VA.

Mr. DONNELLY. The last one I have is for the Naval Air Station at Oceana, Va., and the Naval Auxiliary Air Station at Chincoteague, Va. The notation is that bids will be received for these barracks about 15 January 1952.

(The document relative to the Oceana and Chincoteague installations is as follows:)

DATA SHEET ON BARRACKS

1. Location of unit and using agency: Naval Air Station, Oceana, Va., Bureau of Aeronautics; Naval Auxiliary Air Station, Chincoteague, Va., Bureau of Aeronautics.
2. Classification and description of construction: Reinforced concrete.
3. Date of construction contract and contract number: Bids will be received for these barracks about January 15, 1952.
4. Number of similar buildings: 14 at Oceana; 7 at Chincoteague.
5. Number of sleeping rooms per building: 3.
6. Gross area—outside dimensions (give breakdown in item 11): 14,767.82 square feet.
7. Construction cost: [1] Estimate, $209,000.
8. Cost per square foot: $14.15.
9. Rated capacity: 100-man.
10. Cost per man based on rated capacity: $2,090.
11. Analysis of space:
Type: Permanent construction.
Does barracks house heating boiler: No.
Number of similar buildings: 21.
Where built: Naval Air Station, Oceana, Va., 14 buildings; Naval Auxiliary Air Station, Chincoteague, Va., 7 buildings.

Type of space per building	Area (square feet)	
	Gross	Per man [1]
Sleeping rooms (including closets accessible from such rooms)	8,069.25	80.69
Lounge space (day room)	1,447.37	14.47
Toilets and janitors' closets	965.85	9.66
Personal storage space	209.31	2.09
Other storage space		
Corridors	972.23	9.72
Laundry	306.68	3.07
Linen storage	71.68	.72
Stairs (horizontal projection)	762.76	7.63
Heating and mechanical equipment	175.31	1.75
Mess and kitchen space		
Administrative space	71.75	.72
Classroom space		
Other space—specify (pipe space)	89.88	.90
Wall and partition space to balance with gross area given in item 6	1,625.75	16.26
Total	14,767.82	147.68

[1] Based on rated capacity.

12. Total basement area included in the above: None.

NOTES.—All areas on this page to be computed on basis of inside dimensions. Exclude attic and crawl space. Each sheet to contain only data applicable to a multiple of buildings of the same design under the same contract.

[1] If job not yet completed, use latest estimate and so indicate, excluding Government costs, A. and E. costs, and utilities beyond a 5-foot line and including any Government-furnished equipment except movable furniture.

Mr. DONNELLY. These proposed barracks appear to be in keeping with the 1948 criteria, do they not, Admiral?

Admiral JELLEY. Generally, yes. I notice that the wall and partition space is about 4 feet per man greater, and that the barracks as a whole is about 4 feet per man greater.

Mr. DONNELLY. These figures cover our presentation on the matter of barracks.

Do any of the committee members have any questions they would like to ask with respect to this phase?

NAVY VIEW ON AREA PER MAN IN BARRACKS

Mr. DAVIS. Has the Navy generally accepted the 120-square-feet-per-man figure as a reasonable standard, or just what is your attitude on that at the present time?

Admiral JELLEY. No; the Navy has not accepted it. I would say that we have an open mind, and if we can get down to a figure of 110 square feet or 125 square feet with a clear conscience, meeting all health and comfort standards, we certainly will recommend it.

I feel, as I stated yesterday, that the criteria published so far have been inadequate because we didn't put a ceiling figure on things like corridor space and toilets, and it will be a lot easier for the design people if we give them a criteria like that. But it will take some study, and I hope within 2 weeks we can have an agreed-upon figure which we can submit to the committee.

Mr. DAVIS. This table which has been presented to us has been prepared by your staff; has it not?

Mr. DONNELLY. Yes, sir. It was prepared from the data supplied by the Bureau of Yards and Docks.

Mr. DAVIS. And it was supplied you in November of 1951?

Mr. DONNELLY. Yes, sir.

Mr. DAVIS. Looking at this table and in view of the comments which we have had previously, it appears that the Army and the Air Force have very readily agreed to the standard of 120 feet while the Navy has expressed some reservations concerning that, and yet it's supposedly average figure which has been submitted to the committee in this table shows that in actual practice the Navy has come closer to meeting that standard than either of the other two services. Actions speak louder than words.

Admiral JELLEY. The only reason I expressed reservations was because it is so new to us. In other words, as far as I was concerned, yesterday was the first time that I heard of the proposal of 120 square feet. We will conscientiously study that.

Mr. RILEY. Mr. Furcolo, do you have any question on the barracks?

Mr. FURCOLO. I have some general questions. Do you want to hold the general questions to a later time?

Mr. RILEY. If they cover the subject of barracks, I think you might ask them now.

FEASIBILITY OF 72 SQUARE FEET PER MAN SLEEPING SPACE AND 120 SQUARE FEET PER MAN GROSS AREA

Mr. FURCOLO. Now, referring to the number of square feet per man, I gather that you have some sort of estimate for barracks. You are trying to hit a figure of 72 square feet per enlisted man?

Admiral JELLEY. Seventy-two square feet of sleeping space.

Mr. FURCOLO. And 120 square feet over-all?

Admiral JELLEY. The 120 square feet was proposed by the committee staff or, I would say, has been agreed to. The committee staff has been notified by the Army and the Air Force that they were going to 120. Our criteria worked out, I think, to 143 square feet.

Mr. FURCOLO. I see. Do you have any statistics of any kind to

indicate what the square footage was for the Navy or for the other branches of the service in World War II?

Admiral JELLEY. No; I do not. I recall—and it has been about 20 years ago, but Mr. Sullivan can bear me out—that we went by the figures of 600 cubic feet and 60 square feet, or 500 cubic feet and 50 square feet.

Mr. SULLIVAN. It was 50 square feet and 450 cubic feet. That was the minimum established.

Admiral JELLEY. That was a pre-World War II figure; 50 square feet per man and 450 cubic feet per man.

MUNITIONS BOARD DIRECTIVE FIXING SLEEPING SPACE AT 72 SQUARE FEET PER MAN

Mr. FURCOLO. Let me try to get at it this way: These figures of either 72 square feet or 140 or 120, or whatever it may be, as I understand it, are set by the Munitions Board by directive. In other words, who arrived at that figure? That is not a law; is it?

Admiral JELLEY. No, sir. That was arrived at in committee between the Army, the Navy, and the Air Force representatives, under the sponsorship of the Munitions Board. The Munitions Board then reviewed the committee recommendations and promulgated what they call troop housing at 72 square feet per man.

Mr. FURCOLO. Now, perhaps you do not have it, but are you able to get for us what the particular recommendation was of each branch of the service? In other words, I assume that probably they differed.

Admiral JELLEY. I don't know whether committee minutes were kept or not, but I would say that such things would be more or less verbal and informal and did not include the submission of a formal record.

You were in on that, Mr. Sullivan.

Mr. FURCOLO. Can you tell me this: Did the Munitions Board cut down each of the services, or did they perhaps say that you have to give the man a little more?

Mr. SULLIVAN. Here is what happened. Representatives of the Navy, the Air Force, and the Army met to discuss and to analyze their particular types of barracks, with the idea of coming up with one type of barracks for all three of the services. We had very little difficulty except that the Army and the Air Force members recommended a little more space than the Navy. Our policy at the time was 70 square feet per enlisted man, 90 square feet for petty officers, first, second, and third class, and 180 square feet for chief petty officers.

The Army and the Air Force representatives on the work group argued that the top-rated men, being high caliber, technically trained men, ought to get more space, to make the military service more attractive. They held out for 180 square feet for the first three grades, 90 square feet for the fourth grade and 72 square feet for the remainder. The Navy was outvoted, but went along since we were asked to come to a unanimous opinion.

I was a member of that work group. A report was prepared and sent to the chairman of the Committee on Permanent Construction with our recommendations. That committee approved it and then sent it to the Munitions Board for implementation. The only thing

that ever came of it so far as I know was the directive of 72 square feet. After all of our discussion on the barracks, they came out with a directive of 72 square feet for enlisted men. They ignored all of the other factors.

Now, whether they meant the 72 square feet to apply to all grades or to just these three lower grades is not clear. We assumed that the 72 square feet was a modification of our 70 feet and that our petty officers' and our chiefs' figures were to remain.

This shows you that the committee actually increased the Navy's requirements.

MUNITIONS BOARD INCREASED 70 SQUARE FEET PER MAN, WITH WHICH NAVY WAS SATISFIED, TO 72 SQUARE FEET

Mr. FURCOLO. Would I be safe in saying that actually this committee or the Munitions Board, whichever it was, someone other than the Navy, in effect said, "You have to build the barracks to give more space than you people think is necessary or advisable." In other words, did they issue a directive of some kind overruling what you people thought was necessary and calling for more space?

Mr. SULLIVAN. No, sir. The only thing that I know that came out of this committee's work was this figure of 72 square feet for troop housing, which was not elaborated on.

Now, I understand informally that someone in the Secretary of Defense's office is working on this very proposition now in an effort to try to iron it out. The criteria prepared by our work group were sent to the three agencies in order to get their comments or approval.

Mr. FURCOLO. You arrived at recommendations of so much space for the enlisted men, so much space for the noncommissioned officers, and so much space for the chiefs, and they came out with a figure that was a little higher than yours for the enlisted men?

Mr. SULLIVAN. Yes. Their figure was 72 square feet for the enlisted men. Our interpretation of that is that they meant 72 square feet for nonrated enlisted men. I think most people interpreted it the same way.

Mr. FURCOLO. Let me see if I understand this correctly. As far as you are concerned, 70 square feet for the enlisted men is enough?

Mr. SULLIVAN. That is what we had. I can show you our criteria here. It was 70 feet until this directive came out.

Mr. FURCOLO. From your experience in this line, you people are satisfied that 70 square feet per enlisted man is what it should be? I am talking about enlisted men below second-class petty officers.

Mr. SULLIVAN. That is right.

PRESENT NAVY STUDY OF AREA PER MAN IN BARRACKS

Mr. FURCOLO. Have any surveys been made indicating what the square feet per person was in, say, the CCC camps back in the old days?

Admiral JELLEY. No; except that in connection with trying to arrive at a figure such as 120 square feet I asked Mr. Sullivan to have his people check back through some of our wartime barracks to see how they worked out on an over-all basis.

Frankly, this idea of an over-all figure of area per man is a new concept to us. We had always looked at the figure of 50 square feet or 70 square feet per man for sleeping, and trying to put out an over-all ceiling is a new concept. We just do not have any records on that basis.

You may remember what we called the B–1–B barracks which was a two-story barrack with a dormitory on each end and heads and washrooms in the center. It was a 250-man barracks. Most of them were frame and asbestos-board covered. That was our World War II emergency building. During the war they were all double-bunked.

Mr. FURCOLO. Was that the type of barracks that you had at Fort Schuyler, N. Y.?

Admiral JELLEY. I have never been there.

Mr. SULLIVAN. Bainbridge has the B–1–B barracks, as does Farragut.

POTENTIAL DOUBLE BUNKING IN NAVY BARRACKS

Mr. FURCOLO. Do you feel that the 70-square-feet-per-enlisted-man figure also gives you enough room if you want to double up on the bunks in the event of an emergency?

Admiral JELLEY. The double-bunking is really determined by the cubic capacity of the building. In the case of our standard barrack, of which the plans have been shown, half of the beds can be double-bunked and we can still stay within the minimum of 450 cubic feet and the minimum of 50 square feet. In other words, in our 100-man barrack you can double-half the bunks and still have 450 cubic feet per man.

Mr. SULLIVAN. If you double-bunk all of them, you cut the square feet per man from 70 feet to 35 feet.

NAVY SEMIPRIVATE BARRACKS ARE ACTUALLY CUBICLES

Mr. FURCOLO. I do not know what this term means to you, but what do you comprehend by a term which I have seen in the newspapers called semiprivate barracks for enlisted men? Is that what we are talking about here? What is meant by the term "semiprivate"?

Admiral JELLEY. The Air Force type of barrack which they have been using lately has rooms in which they put two or three men. It is what we would call a BOQ room, with perhaps a lavatory in the corner, although some of them have entirely separate lavatory facilities.

Ours are set up this way: This is an open dormitory. Here are partitions perhaps 6 feet high. It is open at each end. These two partitions form a little cubicle, and they will have four bunks in there normally with lockers between the bunks.

Mr. FURCOLO. I see what you mean.

Admiral JELLEY. This could be called semiprivate facilities, whereas rooms, I would say, would be private accommodations.

Mr. FURCOLO. Then in the Navy what you refer to as semiprivate would be a big barracks with a large room where there might be 100 men, with part of the space partitioned off, the partitions being about 6 feet high, with about four men in what you called these cubicles or compartments.

Admiral JELLEY. That is right.

Mr. FURCOLO. And that is what the Navy is referring to by semi-private quarters?

Admiral JELLEY. Yes, sir.

CEILING HEIGHT IN NAVY BARRACKS

Mr. RILEY. Admiral, what is the average height of your ceilings in these barracks?

Admiral JELLEY. I will ask Mr. Sullivan to answer that.

Mr. SULLIVAN. I think it is 11 feet. If I remember correctly, it is 11 feet.

Mr. RILEY. Is that in line with your regular criteria?

Mr. SULLIVAN. Yes. I might say that this indicates a beamed ceiling, and it is 11 feet floor to floor. Out of that you would have the thickness of the slab, which would bring it down to about 10 feet 6 inches to under side of slab.

If you had a plastered ceiling or a hung ceiling, it would probably be about 10 feet.

Mr. RILEY. You would probably lose about 10 inches there.

Mr. SULLIVAN. Yes. If you have beams, you would probably have 10 feet under the beams.

Mr. FURCOLO. Mr. Chairman, I forgot to ask one question.

Mr. RILEY. All right; go ahead.

UNIVERSAL MILITARY TRAINING CONTEMPLATES SEPARATE FACILITIES

Mr. FURCOLO. All that we have been saying so far about the type of barracks and everything else does not take into consideration at all universal military training? Or does it take that into consideration?

Admiral JELLEY. It does not take into contemplation UMT. There has been a separate series of studies made by BuPers on UMT and a separate set of facility requirements drawn up.

ATTITUDE OF ENLISTED MEN TOWARD BARRACKS OF DIFFERENT TYPES

Mr. FURCOLO. I had a question, if I can read my notes properly, with reference to barracks having 120 square feet per man. If you have barracks containing that amount or less, have you had any complaints of any kind from the men who live in those barracks?

Admiral JELLEY. I think that undoubtedly some of the wartime barracks, such as those we have in Bainbridge, run less than 120 square feet; but I will know that when we have finished these computations. I have not heard any complaints. I would not be in a position to hear them, as a matter of fact.

Mr. FURCOLO. What I am getting at is this: The people who would know best about whether these are practicable and livable would be the men who live there; and, while it is natural to get a certain amount of complaints, their views would be of some significance.

Admiral JELLEY. I get around quite a bit, and I have noticed this in the use of our wartime barracks over the last few years where you have a condition such as exists at Bainbridge. There you have recruits who come in and stay 3 months and move out. Their whole barracks will be double-bunked. But within a few feet of that you will have

another barracks used by the station force which may be there for a year or two or three. Those barracks will be single-bunked.

Now, I take it that the people who have to live in a barracks under more or less permanent status would object to the double-bunking feature, so that they have been given more space for that reason.

Mr. PATTERSON. The B–1–B barracks were built in wartime and were pretty crowded. They were definite fire hazards. In fact, we had several fires in them and lost a few lives. They had little space heaters inside of them, and the occupants would freeze to death in the winter. It was purely an emergency type of barrack. We were fighting the war, and we knew it.

Mr. FURCOLO. Let this be off the record.

OBLIGATION OF FUNDS APPROPRIATED BY CONGRESS FOR MILITARY CONSTRUCTION

Mr. DONNELLY. The next subject that we would like to take up is the matter of obligating funds appropriated by Congress for military construction by the two construction services; that is, by the Bureau of Yards and Docks and the Corps of Engineers in the Army.

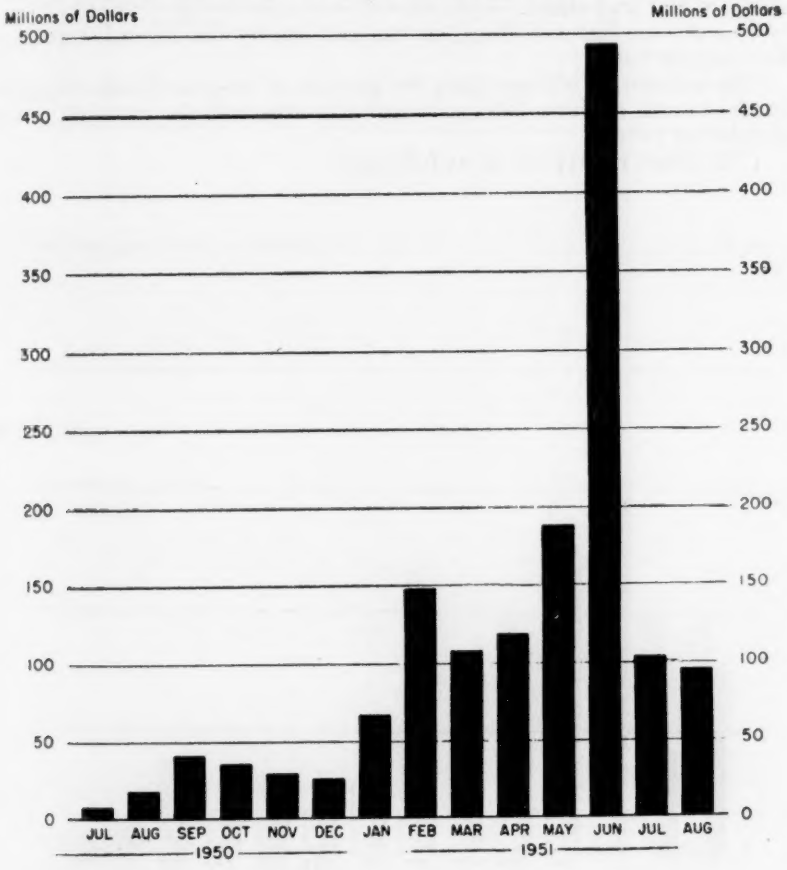
We have here a chart which shows the amounts of money obligated month by month for the 14-month period ending August 31, 1951, and the amount obligated for the calendar month of June 1951 is very close to $500 million.

(The chart is as follows:)

MILITARY CONSTRUCTION (ZONE OF INTERIOR)

FUNDS OBLIGATED BY CORPS OF ENGINEERS AND BUREAU OF YARDS AND DOCKS*

FOURTEEN MONTH PERIOD ENDED AUGUST 31, 1951



* Includes USAF funds obligated by Corps of Engineers, but does not include funds obligated by USAF

Now, I have here a notation of the dates on which the various appropriation acts which relate to this chart were enacted.

The General Appropriation Act for the regular 1951 appropriation was enacted on September 6, 1950. The first supplemental of 1951 was enacted on September 27, 1950. The second supplemental was enacted on January 6, 1951. There was nothing in the third supplemental for military construction. The fourth supplemental for 1951 was enacted on May 31, 1951.

Now, to furnish a breakdown of that chart of the fiscal-year funds which had to be obligated by June 30, as against the so-called no-year funds or continuing funds, we have the second chart, which is a breakdown of the first chart.

The crossed-hatched lines, as you can see by the legend, represent the no-year funds.

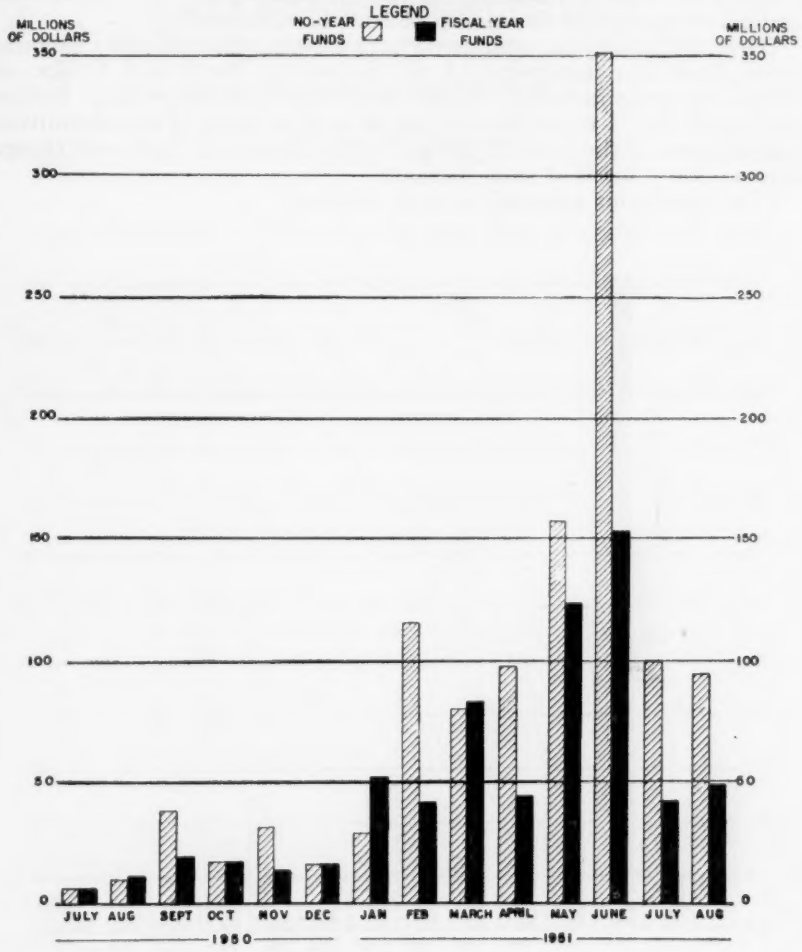
The committee will see that the amount of no-year funds obligated in the month of June 1951 substantially exceeded the amount of the fiscal-year funds.

(The chart referred to is as follows:)

MILITARY CONSTRUCTION - ZONE OF INTERIOR

FUNDS OBLIGATED BY CORPS OF ENGINEERS AND BUREAU OF YARDS AND DOCKS

FOURTEEN-MONTH PERIOD ENDED AUGUST 31, 1951



*INCLUDES USAF FUNDS OBLIGATED BY CORPS OF ENGINEERS, BUT DOES NOT INCLUDE FUNDS OBLIGATED BY USAF.

96640—52—pt. 1——8

Peaking of Obligations Is Uneconomical

Mr. Donnelly. Now, with respect to that, let me ask whether it is not a fact that the lumping of military construction contracts in one period of time, such as the month of June 1951, results in loss of economy in the awarding of contracts?

Admiral Jelley. I would say in general that it would.

Mr. Donnelly. With respect to that, Secretary of the Navy Kimball told me some weeks ago that he had issued orders that all obligations of fiscal funds are to take place by May 15 of each year instead of going into the month of June of each year.

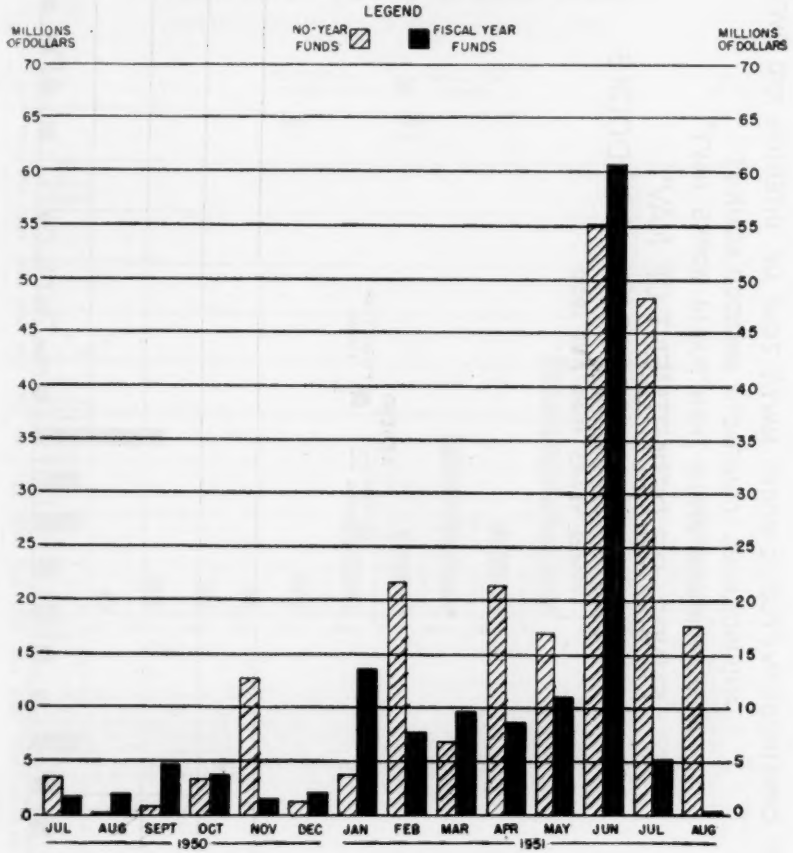
Now, we have some comments here showing the difficulty encountered, from the standpoint of the Bureau of Yards and Docks, of obligating funds in such a compact and concentrated period. Before getting to that, I would like to pass to each member of the committee a breakdown of the funds obligated by the Bureau of Yards and Docks for the Navy for that same period.

(The document referred to is as follows:)

MILITARY CONSTRUCTION ("PUBLIC WORKS - NAVY") - ZONE OF INTERIOR
AND INCLUDING CONTRACTS AWARDED AGAINST
APPROPRIATIONS OTHER THAN "PUBLIC WORKS - NAVY"

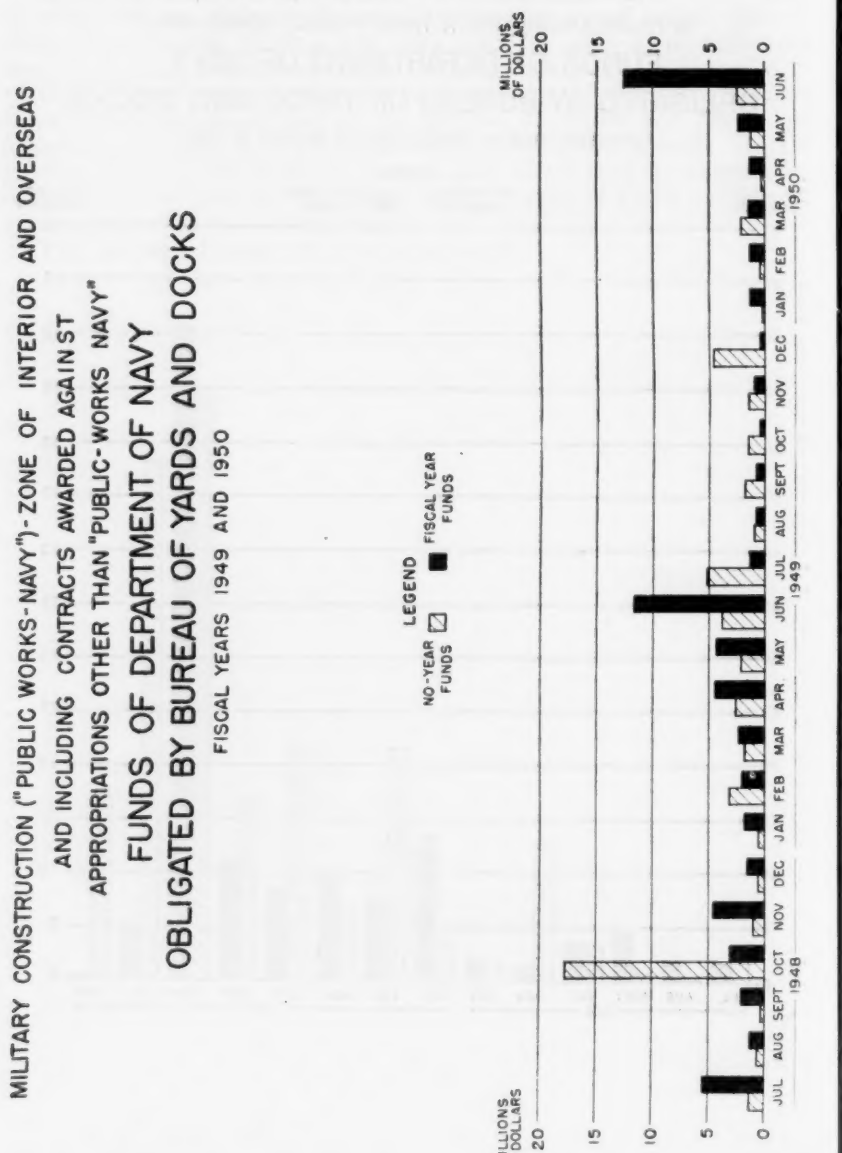
FUNDS OF DEPARTMENT OF NAVY OBLIGATED BY BUREAU OF YARDS AND DOCKS

FOURTEEN - MONTH PERIOD ENDED AUGUST 31, 1951



Mr. DONNELLY. We also have a similar chart covering Navy military construction obligations for fiscal years 1949 and 1950. To permit a comparison of the three services, we have charts for the Army and the Air Force, both for the 14-month period ended August 31, 1951. (We don't as yet have charts from the Army and Air Force for fiscal years 1949 and 1950.)

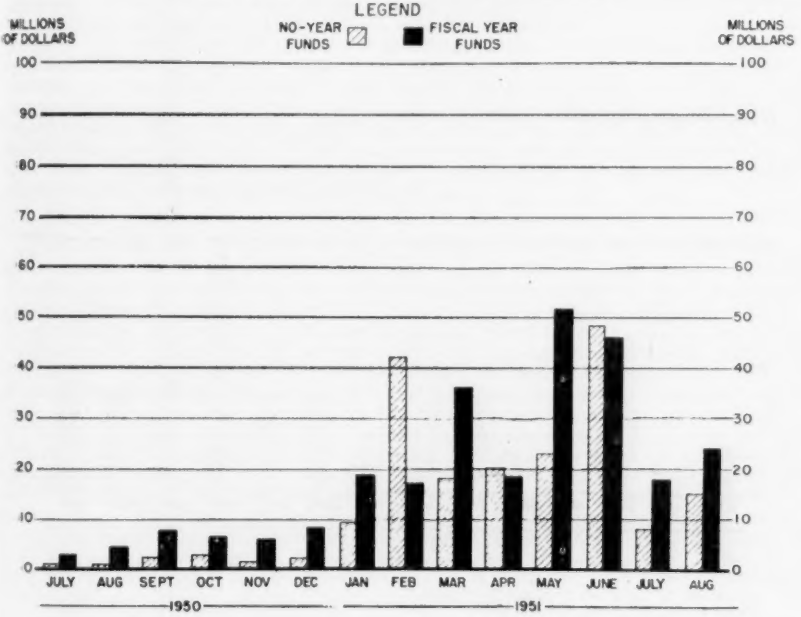
(The three charts are as follows:)


MILITARY CONSTRUCTION ("PUBLIC WORKS-NAVY")-ZONE OF INTERIOR AND OVERSEAS
AND INCLUDING CONTRACTS AWARDED AGAINST
APPROPRIATIONS OTHER THAN "PUBLIC-WORKS NAVY"
FUNDS OF DEPARTMENT OF NAVY
OBLIGATED BY BUREAU OF YARDS AND DOCKS
FISCAL YEARS 1949 AND 1950
LEGEND
NO-YEAR FUNDS
FISCAL YEAR FUNDS
MILLIONS OF DOLLARS
20
15
10
5
0
JUL AUG SEPT OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC JAN FEB MAR APR MAY JUN
1948
1949
1950

MILITARY CONSTRUCTION-ZONE OF INTERIOR
(INCLUDING REPAIR AND UTILITIES FUNDS)*

FUNDS OF DEPARTMENT OF ARMY OBLIGATED BY CORPS OF ENGINEERS

FOURTEEN MONTH PERIOD ENDED AUGUST 31, 1951

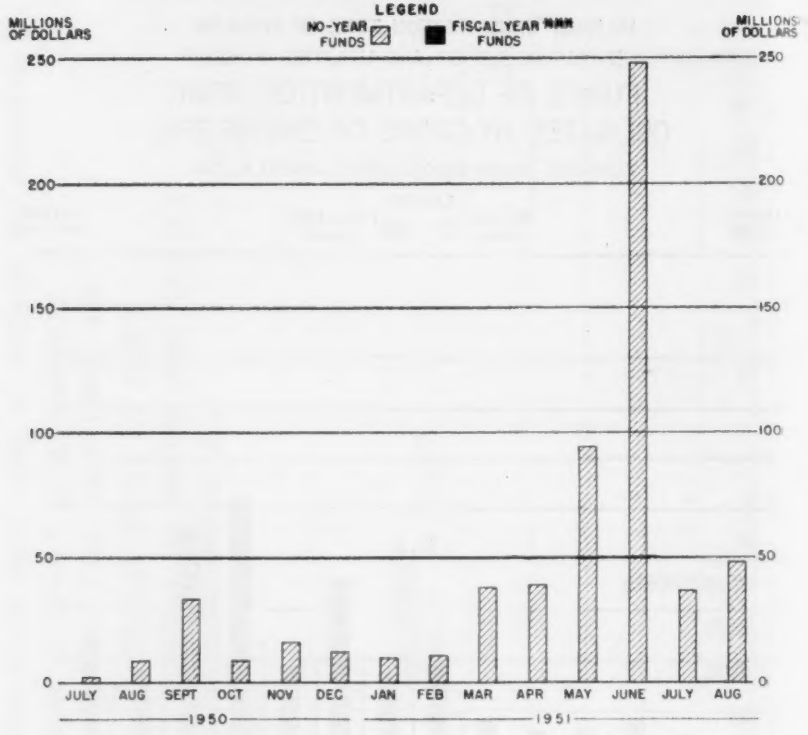


*DATA INCLUDED FOR REPAIRS AND UTILITIES REFLECT COSTS RATHER THAN OBLIGATIONS. R&U FUNDS ARE OBLIGATED BY CORPS OF ENGINEERS ONLY UPON REQUEST OF THE CONTINENTAL ARMY COMMANDERS. THESE OBLIGATIONS REPRESENT A RELATIVELY SMALL PROPORTION OF THE R & U FUNDS.

MILITARY CONSTRUCTION—ZONE OF INTERIOR
(EXCLUDING REPAIR AND UTILITIES FUNDS)*

FUNDS OF DEPARTMENT OF AIR FORCE** OBLIGATED BY CORPS OF ENGINEERS

FOURTEEN-MONTH PERIOD ENDED AUGUST 31, 1951



* THE CORPS OF ENGINEERS DOES NOT SUPERVISE REPAIR & UTILITIES WORK FOR THE USAF.

** DOES NOT INCLUDE FUNDS OBLIGATED BY USAF.

*** FIGURES NOT AVAILABLE FOR MISCELLANEOUS F Y FUNDS ALLOTED DIRECT TO DISTRICT ENGINEERS BY USAF.

Mr. DONNELLY. One of the naval districts has supplied some information with respect to the obligation of funds in the month of June and the month of May as well. That is the Sixth Naval District. That is the same naval district that has supervision over Memphis, and we have underscored the portions of it which relate to this matter of peaking of funds, as that is the term that has been used.

(The document referred to is as follows:)

Code DB–400

SEPTEMBER 28, 1951.

INFORMATION SUBMITTED BY THE DPWO AND DOINCC 6ND[1] TO THE HOUSE INVESTIGATION COMMITTEE

* * * * * * *

2. As has been previously stated, preliminary cost estimates for projects are submitted at the time the project is initiated, however, such cost estimates are sometimes outmoded by the time the project has reached a stage where it is ready for the actual work of construction. In such cases, additional cost estimates are made by the District Public Works Officer, which estimates reflect the prevailing costs of labor, materials and equipment which will be incorporated in the completed project. *During the time of extreme rush and the handling of numerous projects, which time is the months of May and June of any fiscal year, cost estimates that are prepared are not as complete and full as those made during times when the press of work is less.* During the past fiscal year monies were made available under Appropriation 17X1205, PW Navy, on the basis of the total sum being applicable to the work of various projects at one site or station. In such instances, the total funds were broken down on preliminary estimates and were subsequently and actually apportioned, based on bids received for each individual project. In order that the amount of available funds should not be exceeded, all specifications for proposed work were prepared with deductive bid items in addition to the basic bid item which covers the accomplishment of the entire proposed project. The deductive items were of such a type that the costs thereof might be applied to the basic bid, thereby reducing the cost of the work to come within the available funds. The deductive items were of such nature so that if they were applied, the remaining project would still be a complete and usable project. [Italics supplied by Committee Staff.]

* * * * * * *

4. *During the last months of the fiscal year this office, like all other Government offices, engaged in the work of handling construction contracts, bears an unusual load of work due to the fact that funds which have not been previously spent and which must be obligated by the end of the fiscal year are brought to light, and projects set for the receiving of bids prior to the 30 June deadline. Such practice results in an undue workload being placed on the personnel* of the Construction Division with the consequence that additional help is borrowed from other Division Offices of the District Public Works Offices, Sixth Naval District, during the months of April, May, and June, and the personnel of the Construction Division works overtime. *While this condition is not desirable, the fact that the increased number of bid lettings and the increased amount of work advertised to contracting firms in an extremely short period of time, results in a much less desirable condition of relatively few bids on work being received and somewhat higher prices being bid by the contractors who do submit bids.* No definite information is available as to a percentage increase in the bid prices received during this period or a percentage of decrease in the sum of bids received for the group of projects advertised to contractors during this period. However, it is known that there is an undesirable result from following such practice. [Italics supplied by Committee Staff.]

* * * * * * *

9. This office considers that on all contracts, except short form and informal contracts, the time period of 30 days should be allowed prospective bidders for the preparation of their bids. The practice is that notices are forwarded to a list of prospective bidders, plan rooms, post offices, and other public buildings, anticipating the actual availability of drawings and specifications by five days. By following this procedure, bidding data may be forwarded to prospective bidders at the time they make their request after receiving notices and the minimum amount of time elapses between the forwarding of notices and the actual receipt of bids on a contract. In the event it is found that drawings and specifications are not available as originally contemplated and if there is a delay of more than approximately two days in such availability, the bid opening date is set forward accordingly.

[1] These symbols identify the District Public Works Officer and District Officer-in-Charge of Construction for the Sixth Naval District.

USE OF DEDUCTIVE BID ITEMS IN CONTRACT LETTING PROCEDURE

Mr. DONNELLY. Now, in the first paragraph, which is paragraph No. 2, in the last portion thereof, there is a discussion with respect to deductive bid items. As I understand it, that indicates that if there is so much money available at the time the bids are invited but more work is desired on the project, the entire project is advertised with some items deleted by way of alternates to permit the letting of the contract within the money available. Is that right, Admiral?

Admiral JELLEY. That is right. That is a common practice and would be done all year around, not only in the months of May and June.

Mr. DONNELLY. As I understand, Memphis is an excellent example of that in that the bids were invited on the 10 wings and there was an alternate bid provision for 8 wings, which permitted the awarding of the contract with the money available in the second supplemental of 1951.

Admiral JELLEY. That is right.

Mr. DONNELLY. Then when the additional money from the regular 1952 appropriation was available that alternate was added to the contract.

Admiral JELLEY. That is right, sir.

LETTING OF CONTRACTS IN WINTER AND EARLY SPRING IS SOMETIMES DESIRABLE

Mr. DONNELLY. Admiral, with respect to the heavy construction operations, what observations would you want to make on the necessity for the big contractors having their workload scheduled out at the beginning of the construction season, that is, in January and in February and in March, so that the warmer weather, which is the construction season, will be available to them to execute the work rather than starting a job in June and July, or rather getting a contract in June or July?

Admiral JELLEY. That would be very desirable in many sections of the country. For example, in our work in Alaska we took bids about the first of January so that the contractor would have plenty of time to get started along about the first of April.

The year before we got our money a little later in the calendar year, so we did not open bids until the 10th of May, which made it tight for the contractor.

I would say that anywhere north of the Mason and Dixon line it would be most desirable to let work that involves anything in the ground, prior to the first of April. In the South it wouldn't make too much difference.

Of course, in some cases where you have a distinct rainy season, such as is the case in California, it would be a disadvantage to start work in the ground during the rainy season.

NUMBER OF BIDS NOT NECESSARILY AFFECTED BY TIME OF YEAR WHEN BIDS ARE INVITED

Mr. DONNELLY. In the northern area that you speak of, is it likely that you will get more bids for a particular job if the bids were invited in January and in February?

Admiral JELLEY. Not in my opinion. I think you are liable to get a little higher prices, because the contractor would have to figure on

thawing the ground or taking unusual measures to keep his concrete from freezing and things like that. I think you would get exactly the same number of bids.

Mr. DONNELLY. I am afraid I did not make my question clear. I take it by your answer you are speaking of starting construction. I rather wanted to direct the question toward the bidding, the submission of bids, so that the contractors would put in their bids and there would perhaps be an award made later which would get the contractor into the beginning of the construction season. In that case, are you not likely to get more bids?

Admiral JELLEY. No. I do not think the number of bids would be affected. As a matter of fact, take a job that is going to last a year or a year and a half. It does not make too much difference when you take the bids. Sometime during the construction he is going to have to heat his building to prevent freezing. I don't think you could say as a firm rule that all bids should be let in January or February or March, for example.

If the job is a 360-day job, you could let it on the first of July and get as much competition and almost the same price as if you let it on the first of January.

I know of no such trend in the construction industry in general. The figures I have seen from the Associated General Contractors show a distinct bulge in the spring in the amount of contracts awarded, but I would say that they have a substantial number of awards every week of the year. Mr. Katz, would that be your understanding?

Mr. KATZ. I think that is correct. I might say further that if you make an award in January for work to be started much later, you will get an increased contingency factor in the bid because wages and materials may go up, and so forth.

PEAKING OF OBLIGATIONS BY SIXTH NAVAL DISTRICT

Mr. DONNELLY. Now, with respect to this memorandum from the Sixth Naval District, we have here data with respect to the number of contracts awarded monthly from July 1, 1950 through July 31, 1951.

(The document referred to is as follows:)

Number of construction contracts awarded (monthly) from July 1, 1950, through July 31, 1951

Year and month	Construction contracts awarded				
	NOy	Informal	Total	Change orders	Total
1950—July				3	3
August	7	14	21	11	32
September	6	14	20	2	22
October	12	27	39	7	46
November	14	7	21	13	34
December	11	19	30	8	38
1951—January	13	18	31	8	39
February	27	34	61	9	70
March	23	16	39	15	54
April	25	26	51	7	58
May	32	23	55	15	70
June	98	64	162	24	186
July	9	10	19	7	26
Total	277	272	549	129	678

NOTE.—This data supplied by Sixth Naval District.

Mr. DONNELLY. The document I have just referred to seems to bear out the comment made in the memorandum, does it not, namely, that a large number of the contracts are let in May and June, a much larger amount than in the other months?

Admiral JELLEY. That is right.

Mr. DONNELLY. Now, we have a companion table here which shows the dollar volume of the awards by the Sixth Naval District for that same period of time.

(The document referred to is as follows:)

Amount of obligated funds (monthly) from July 1, 1950, through July 31, 1951

Year and month	Funds obligated		
	Construction	Services	Total
1950—July	$13,414.62		$13,414.62
August	288,654.06		288,654.06
September	138,816.91	$147,922.00	286,738.91
October	255,158.16	45,310.00	300,468.16
November	291,294.96	110,467.94	401,762.90
December	162,221.43	88,991.50	251,212.93
1951—January	2,152,595.73	1,472,411.07	3,625,006.80
February	664,761.38	67,700.00	732,461.38
March	2,084,319.08	172,662.00	2,256,981.08
April	1,880,656.94	8,846.50	1,889,503.44
May	2,094,001.72	32,962.51	2,126,964.23
June	22,035,171.87	280,921.58	22,316,093.45
July	12,365,166.22	129,074.60	12,494,240.82
Total	44,426,233.08	2,557,269.70	46,983,502.78

NOTE.—This data was supplied by the Sixth Naval District.

EFFECT OF PEAKING IN FIFTH NAVAL DISTRICT

Mr. DONNELLY. We have here a memorandum from the Fifth Naval District which speaks of the developments in the fourth quarter of the fiscal year of 1951, when estimates were prepared without checking because of time limitation and the volume of work involved. That is shown in the paragraph lettered "B." It is entitled "Preliminary Estimates."

(The document referred to is as follows:)

PUBLIC WORKS OFFICE,
FIFTH NAVAL DISTRICT,
Norfolk 11, Va., September 14, 1951.

MEMORANDUM

From: Commander J. D. Burky, CEC, USN.

To: Messers Louis J. Graham and Eli Abbott, Jr., representing House Appropriations Committee.

1. In reply to questions discussed with you on September 10, the following information is forwarded:

A. *Origin of projects.*—Construction projects are usually originated by the using activity and forwarded through Commandant, Fifth Naval District, to the management bureau of the originating activity; though sometimes management bureaus sponsor major projects d rectly. Projects for alterations or new construction in excess of $50,000 are submitted annually 2 years in advance in the shore station development program for approval by Chief of Naval Operations except that emergency projects may be forwarded at any time. Projects for alterations or new construction estimated to cost less than $50,000 and all maintenance projects are forwarded through Commandant, Fifth Naval District, to the management bureau of approval at v rious times. When funds are made available for construction by contract, the district public works office accomplishes

the work except that specifically designated activity public works officers are authorized to design, execute and award short-form contracts ($10,000 limit).

B. *Preliminary estimates.*—Prior to request for funds, estimates are prepared by the district public works office, when requested, or by using activity. The district public works office generally checks activity estimates prior to forwarding Commandant, Fifth Naval District, endorsement. *The fourth quarter of fiscal 1951, the district public works office accepted activity prepared estimates without check because of time limitation and volume of work.* (Italic supplied by committee staff.)

* * * * * * *

D. *Use of architect-engineers.*—The district public works office design division is of sufficient size to handle a normal volume of design work. In the last half of fiscal 1951 that volume increased about 25 times the normal load. The obvious way to expeditiously accomplish many large and complicated projects at once was through the use of A. and E. contracts. In each case, a capable firm well adapted to execute the particular type of work involved is selected. Standard plans, design criteria and other available data are furnished and the fees negotiated on the basis of the remaining A. and E. work required. For guidance, Bureau of Yards and Docks approved fee curves for various types and sizes of projects are available to the Board of A. and E. Contract Awards, which negotiates A. and E. fees.

94 PERCENT OF ALL FUNDS WERE OBLIGATED BY NINTH NAVAL DISTRICT IN JUNE 1951

Mr. DONNELLY. Now, we have another tabulation from the Ninth Naval District which shows the obligations for the calendar month of July 1950 through the calendar month of June 1951.

(The document referred to is as follows:)

Ninth Naval District, Great Lakes, Ill.—Funds obligated month by month during fiscal year 1951

	Public works funds		*Public works funds*
1950—July	$23,000	1951—January	
August		February	$60,000
September	1,500	March	54,900
October	27,000	April	191,000
November	5,200	May	
December		June	5,702,020
		Total	6,064,620

Source: Ninth Naval District, Great Lakes, Ill.

STAFF NOTE.—June 1951 obligations represent 94 percent of fiscal year 1951 public works program in this district. Bids were opened in June on projects having an estimated additional cost of $4,148,000; these contracts were subsequently awarded during July and August 1951.

NAVY EXPLANATION OF PEAKING OF MAINTENANCE FUNDS (WHICH ARE FISCAL YEAR FUNDS)

Mr. RILEY. Admiral, I have been looking over these documents that have been presented, and I am interested in knowing why the peak in obligations is reached in all instances in June just before the end of the fiscal year.

Admiral JELLEY. May I discuss separately the annual funds and the continuing, or no-year, funds?

Mr. RILEY. Yes.

Admiral JELLEY. Because there are different reasons for the peaking.

As far as annual funds are concerned, I think the condition shown of a peak in May and June, mostly in June and almost entirely in June for the Navy, is common to all Government departments and has been for many, many years.

As a matter of fact, it is one of our annual jobs to get after the other bureaus and offices that have appropriations and to tell them to get the projects to us that are going to have to be put under contract as early as possible.

We say to the bureau chiefs, "If you are going to give us anything, give it to us now so we can really work it over efficiently and get up decent plans and specifications."

I have known of the existence of this trend personally for over 20 years and, to my mind, it comes primarily from caution on the part of the budgeting officers. In the summertime when they get their new appropriation they feel, "Well, we don't know what it is going to be like this winter, whether it is going to be a hard winter or an easy winter, whether we are going to have to spend more money for fuel than the average, or maybe something will happen during the year, some unforeseen event, that will make us spend more money than we expect to spend now."

I don't know of a single budgeting agency that would divide their annual money into 12 parts and allow one-twelfth of it for each month. In July and August they might divide their money into 15 parts or, if they are supercautious, even 18 parts. For the first few months, instead of giving one-twelfth of it, they will give one-fifteenth or less. Then as the year progresses they get a little bolder. Maybe it has been a milder winter than they had expected and they didn't have to spend so much for fuel.

If it has been a harder winter than they had expected, maybe they will have to cut back their plans more.

But with the winter over there is not so much time for unforeseen developments, and they get a little bolder. So in a normal year I think you will find that almost every Government agency working on annual funds a peak in the last quarter.

Now the Navy peak for construction contracts covers contracts for repairs, rehabilitation, alterations, minor improvements, and so on. It is limited to those items because these are the type of contracts that the Bureau of Yards and Docks places for other bureaus of the Navy Department.

I would say that in general they show more of a peak than the normal obligation peak. That is because most every bureau or office has some desirable projects in the bag that they want to approve as soon as they get enough money available.

Let us say that on the 1st of April they feel that, "We can spare $100,000 now, and we have these five projects here. Here is a $5,000 project, here is a $20,000 project. We will authorize these now."

Others that they did not have money enough for that fiscal year they might authorize in July or August.

Now, finally, the peaking last year was the most violent I can ever remember. It was far above average. It threw a tremendous load on our district officers. As a matter of fact, just by looking at that chart, you can see that we obligated almost as much money in June as we did in the rest of the year altogether. I believe that we had 1,365 individual contracts in June.

As I recall it, on the first of June we had approximately 1,300 active contracts and on the 30th of June we had 2,600 active contracts. So that tremendous load was thrown on us in 1 month.

In my opinion, that was directly due to the way the budgeting and the appropriation worked out in the last fiscal year. As Mr. Donnelly indicated, we got the 1951 appropriation early in September and the first supplemental late in September. People were very cautious the first 2 months because they didn't know what their appropriation was going to be. So they said, "Here is this repair project which we can defer until we find out what our appropriation is."

Then we got a second supplemental in January. But that time, you will remember, was the time the Chinese entered the Korean war. There was a lot of talk about another supplemental in April or in March. The budgeting people had to be careful not to overspend, say, for airplanes, or ships, or other types of services. They didn't know whether they were going to get more money in March or April or not.

I have never seen such a confused situation as to what we were going to get. It was very difficult for a budgeting officer to plan ahead for the remainder of the fiscal year.

Finally the second supplemental was received. We got nothing in the third supplemental, and we got relatively small amounts in the fourth supplemental which passed, I believe, in the middle of June or rather, I have just been informed, the 31st of May.

Mr. RILEY. The 31st of May is right.

Admiral JELLEY. Now, I know what happened to these other bureaus, their budgeting officers. They were up in the air. They did not know whether the money was going to be spent for airplanes, ships, or other things.

Things were resolved in the last quarter, and they saw what the fourth supplemental was going to be. They could not really firm up their plans until the first of May when the fourth supplemental was finally approved by the Bureau of the Budget and was presented to the House.

Then they looked into their files and said, "Well, here we have $60 million that we do not have to spend for planes, and so forth. Let us see if we can spend it for repair and the rehabilitation of buildings. Here we have these projects on hand."

They threw the projects at us and we did our best to put those repair projects under contract. That is what happened.

I cannot say that that is the right way to operate. From my point of view, I would like to have a steady workload every month of the year. We certainly cannot staff our offices intelligently if half of our yearly work load comes in one-twelfth of the year.

Mr. RILEY. Well, I am glad to hear you say that, Admiral, because it subjects the military services to considerable criticism when these appropriations are obligated just a few days before the end of the fiscal year. Whether that is right or wrong, I don't know personally. The public gets the impression that you spend this money to justify the estimates for the present fiscal year so that you will not be cut down on your appropriation for the next year.

Admiral JELLEY. I cannot say that I agree with that, Mr. Chairman. With regard to this type of work, I remember one example.

ONE EXAMPLE OF A NAVY OBLIGATION IN JUNE 1951

I happened to be in Spokane, Wash., about the 21st of June. I was fortunate enough to make a trip with the Assistant Secretary up to

Point Barrow last June. We stopped at the naval supply depot, Spokane, for a few hours.

In talking to the public-works officer there he said that they had a project to put a precipitator in the heating-plant stack. They get a rather poor grade of coal there, and there was a terrific amount of fly ash. They had a lot of trouble keeping the station clean as well as in handling the complaints from their neighbors. They had had this project in the mill with the Bureau of Supplies and Accounts for almost 4 years. Each year they would go back requesting, I think it was, funds in the neighborhood of $40,000 to install this precipitator.

He was very much elated on the 21st of June because the Bureau of Supplies and Accounts had been able to make that money available. Now, only the fact that they had been studying that project and talking to the various people who sell those kinds of precipitators, getting figures, and getting the data made it possible in those 3 weeks for the public-works officer at Seattle to draw up the specifications and take bids.

Now, it would have been much better if he had gotten the money on the 1st of April because the public-works officer then could have distributed the information more widely. He would have gotten bids maybe from as far south as Portland as well as in the immediate Spokane and Seattle area.

But the point I am trying to make is that it wasn't a hastily thought-up project, a project thought up on the spur of the moment to spend the money. Here was a 4-year-old project that has been in the desirable class for 4 years. And only because it had been in that position where work had been done on it and it had been studied were they able to do it in a hurry. I would say that that is typical of these projects, gentlemen.

It is bad to do it at the last minute because the typists are working against time copying specifications. They make errors. The contractors have a limited time in which to bid. Instead of having a month, they only have a week. They are in a hurry, and they know that they are liable to make mistakes, and they will allow a little more for contingencies. It is not a good situation.

Mr. RILEY. Now, do you not think that in a case of that kind, where the expenditure is justifiable, and the condition is as you stated, one that has existed for 4 years, that that appropriation could have been justified before the committee and handled in the normal course of business?

Admiral JELLEY. Except that Spokane had been put in an inactive status during that 4-year period, and it had just been raised from a minor maintenance to an active status, I believe, about the 1st of January prior to that time. So that for at least 2 of those 4 years the need was even less than desirable because they were not operating the station. It was in a caretaker status.

Mr. RILEY. Well, in your opinion, would the same thing apply to construction contracts?

Admiral JELLEY. Well, the same condition applied last year but not for the same reasons.

Now, if there are no further questions on maintenance contracts, I will pass on to the construction contracts.

Mr. RILEY. Mr. Furcolo, do you have any questions on the maintenance contracts?

Mr. FURCOLO. Not at this time, Mr. Chairman.

Mr. RILEY. Mr. Davis, do you have any questions on the maintenance contracts?

Mr. DAVIS. No. It is the construction contracts that I am interested in.

ANOTHER EXAMPLE OF FUND OBLIGATION IN JUNE 1951

Mr. DONNELLY. May I give an illustration of the maintenance obligation of the funds in the last few months?

Mr. RILEY. Yes.

Mr. DONNELLY. This relates to the Marine Corps Recruit Depot at San Diego, Calif. The information that we have is that some masonry buildings were covered with camouflage paint. On the last day of the fiscal year a contract was let to sandblast that paint off and to re-cover the masonry surfaces with two coats of paint, with three coats of paint on most exterior woodwork, with two coats of paint on the remaining woodwork. This is a breakdown of the prices.

(The document referred to is as follows:)

SCHEDULE OF PRICES, PUBLIC WORKS CONTRACT, BUREAU OF YARDS AND DOCKS

Naval activity: Marine Corps Recruit Depot, San Diego, Calif.
Title of contract: Repainting and reconditioning buildings.
Contractor: Jess B. Worthington, Inc., D. C. Hewitt Co., Ltd., and Helge Hultgren, 2805 University Avenue, San Diego 4, Calif.
Contract: NOY 26509. Dated: ---------- Price: $390,000. Specification No. 28609.
Allotment No.: 15174. Appropriation title: 1711106.11 "Marine Corps Troops and Facilities, 1951."
Submitted: August 2, 1951. Contractor: Jess B. Worthington, Inc., G. C. Hewitt Co., Ltd., and Helge Hultgren. By: H. W. King.
Approved: Public Works Officer.
Approved: Chief of Bureau.

Item No.	Item and unit	Total
	Summary:	
A	Sandblasting walls only	$35,380
B	Sandblasting roofs only	7,120
C	Priority No. 1—painting only	186,673
D	Priority No. 2—painting only	68,251
E	Priority No. 3—painting only	42,123
F	Priority No. 4—painting only	11,094
G	Priority No. 5—painting only	39,359
	Total, sandblasting and painting	390,000

STAFF NOTE.—Date awarded June 30, 1951.

Mr. DONNELLY. Now, Admiral, I believe this is illustrative of the lack of need for maintenance, that is, sandblasting paint off buildings and repainting the masonry surfaces with new paint.

Admiral JELLEY. Now, you have interjected two things there, Mr. Donnelly. First of all, you have implied—perhaps that isn't the right word—but you have indicated that it had been obligated on the last day of the fiscal year. In this particular case, the money was made available to the Bureau of Yards and Docks by the Marine Corps in Washington here early in February. The fact that the bids were not opened until June and the award was not made until the 30th of June was caused by the operations of our office in San Diego.

Now, I cannot blame the Marines for that. If we get the money early in February, that gives us plenty of time, particularly on this type of work.

Now, as to the need for painting and whether the painting was essential or necessary or not, that is primarily the responsibility of the Marine Corps. They get funds to maintain and to take care of the upkeep of their buildings. We question these allotments of funds very seldom. We question them from an engineering point of view if they are impracticable, that is, if they just will not work. We question them if we think it is a bad time of the year or something like that.

As far as the actual painting is concerned, there is no doubt in my mind that painting was overdue. As I understand it, the camouflage was painted on in 1942, and the buildings had not been painted in a period of 9 years. The camouflage paint had deteriorated over the years and had flaked off the buildings and no doubt the buildings looked like the dickens. They had to clean that off with sandblasting and then repaint the buildings to give an even surface.

Undoubtedly part of the painting was needed for preservation. The part of the job involving taking off the old camouflage paint and putting on a new paint job was entirely a matter of appearance. I think it was desirable; there is no doubt about that.

If you are going to try to keep the Marine recruits up to the standards of cleanliness and neatness that the Marine Corps insists on and if you are going to put them into a group of buildings that look like the dickens, even though they were not deteriorating, that would undoubtedly have some mental effect on them. But, as I say, it is a decision of the Marines to decide whether or not they should spend their money on painting the buildings or whether they should spend it on one of the other purposes of their appropriation.

Mr. DONNELLY. The staff investigators discussed this matter out in San Diego and they were told that it was not feasible to paint over the camouflage paint and that if paint was needed at all it was necessary to sandblast the camouflage paint. Then the discussion revolved around the need for the paint and whether it was the proper time of the year in view of the economy restrictions.

I just brought that up as a possible illustration of obligating funds at the end of the fiscal year.

Admiral JELLEY. I had the same problem in 1942. Personally, I dislike very much to paint a good concrete surface. What I mean is that as far as I am concerned concrete has a very nice-looking surface.

Yet, early in 1942 we got instructions to camouflage the buildings, and so forth. I was at Alameda, Calif. I was not in sympathy with the instructions because you cannot miss Alameda Air Station because of the water and the shape of the land. As far as I could see, it did not matter whether the buildings were gleaming white or not. An enemy plane could just look at the estuary here and a spit of land there and there was Alameda.

Well, I talked to the commanding officer and said, "I do not think we ought to paint these nice concrete buildings."

About a day or two later he said, "I have been thinking it over," he said, "and you know all of these people in town would think we were very remiss if they saw all of the other buildings in the military establishment in the neighborhood being camouflaged and our buildings

were not. They would think we were falling down on the job. I think we had better camouflage them."

Well, I picked out the cheapest water paint that I could get, in browns and greens, and we camouflaged our buildings. I knew very well that after the war was over some poor public works officer would have to take that paint off to make the buildings look good again.

Mr. RILEY. Do you have anything else?

Mr. DONNELLY. Do you have anything else, Admiral, to state on this matter of maintenance?

NAVY EXPLANATION OF PEAKING OF CONSTRUCTION FUNDS (NO-YEAR FUNDS)

Admiral JELLEY. No. If the committee has no more questions on maintenance, I would like to talk about the construction contracts.

The fact is that we had a peak with the Army and the Navy on construction funds—and the cross hatched portions on the charts represent the construction funds and show the definite peak. The Navy's peak was pretty well spread over June and July, and I imagine the Army's peak was about the same. I do not have the chart for that.

Mr. DONNELLY. We have the Army's chart, if you would like to look at it.

(Charts for the Army and the Air Force are printed above, following the Navy charts.)

Admiral JELLEY. Well, I do not think it is essential.

That condition resulted from the ground rules of the second supplemental public works bill. When the bill was made up in November and in early December, the ground rules were that no project was to be included unless the money could be obligated by June 30, 1951. Continually during the review the budget people of the Navy Department and of the office of the Secretary of Defense asked the question: can you obligate this money by the 30th of June.

When the bill was presented to the committee, the committee was told that these projects were all projects that could be obligated by June 30. At that time we had not started advance plans and specifications.

We started that program, you may recall, Mr. Chairman, a little later. We came up to the committee about February of a year ago for permission to do advance planning, utilizing some of the public-works funds already appropriated. That permission was granted.

Mr. RILEY. Yes; I remember that.

Admiral JELLEY. The second supplemental appropriation bill was actually passed early in January, although, as I believe it was mentioned yesterday, we started picking architect-engineers ahead of time so that when the bill was passed we could proceed right away with the plans and specifications. That was the first expedient that we grasped.

We said, "First, let's go and pick the people out so that we will be able to start as soon as the money is appropriated."

Then as we came along during the spring we were asked a number of times by the budget people that were reviewing our next public-works appropriation: "Well, now, you made a commitment that you were going to obligate all those funds in the second supplemental by

the 30th of June. How are you getting along on that? If you do not make good on your word on the second supplemental, you are not going to have any luck with the fourth supplemental," or the 1952 program or whatever was up.

So it really became a deadline for the Navy and evidently for the Army, too, because they had the same condition. The second supplemental money had to be obligated on June 30 or our name was—well, we would be in disrepute with the committee as well as with our budget officials.

Now, as a matter of fact, as the deadline grew closer, along about the 15th of May or the 1st of June, I kept very close touch with the progress of obligating the second supplemental. I began to get word back, "Well, if you want this money obligated by June 30, you are going to have to authorize a cost-plus-a-fixed-fee contract or a negotiated contract, or we are going to have to do something unusual."

As bids were opened in June, we ran into difficulties. Some bids were higher than the amount appropriated, and we would have to apply deductions, which took some time for study. Maybe the low bidder didn't have a bid bond, or other questions came up in opening bids.

They said, "If we don't get the figures this afternoon, we will not be able to obligate the money by June 30," and things like that.

I had, of course, realized all along that the deadline was an artificial one, so along about the 1st of June I let down the bars and said, "Well, if you don't do it by the 30th of June under our normal procedures, let it come up during the first week in July or the second week in July."

That is the reason we phase over the 2 months of June and July. I backed up at the last minute and refused to depart from our regular procedures of competitive bidding, and that threw some of the jobs into July.

For instance, I recall talking to one public-works officer who said: "I would like to have a week to review the plans and specifications that the architect has prepared. I feel sure that there are some things there that need straightening out. If we let the bid with plans and specifications just as they are, we are in for a lot of headaches. But that will throw us over to July 7."

After the 1st of June I would have said, "Make it July 7."

The deadline which had been set was an entirely artificial one. It was not a particularly good time of the year to take construction bids. This year it is working out much better. We got our appropriation on October 20 or rather, as I am informed, November 1, 1951. We accomplished a lot by the advance plans and specifications.

On the average we started about September 1. As a result we are going to show a peak this year possibly about the 1st of April. Most of our lettings will be in February, March, April, and into May.

As you brought out, that hits a large section of the country at a pretty good time for getting prices. So, just from the standpoint of the mechanics of the appropriation acts, we are in a good spot this year from the standpoint of timing, whereas we were in a very poor one last year.

Mr. RILEY. I believe that April is probably the first good construction month over the country as a whole.

Do you think that is right?

Admiral JELLEY. Yes; I agree with you there.

Mr. RILEY. Normally April and May—I have not seen the general contractor's figures—but my guess would be that probably more contracts are let in April and in May, or as many, as in any other period of the year.

Admiral JELLEY. I think you will find a hump in the curve in those months.

Mr. RILEY. Are there any questions, Mr. Furcolo?

DELAY IN AWARDING CONTRACTS SOON AFTER BID OPENING IS UNWISE

Mr. FURCOLO. With reference to your comments about the fact that there might be some emergency coming up or something like that, would it not still be possible to go through some of the procedure you have to go through on bids and make it a tentative proposition?

Admiral JELLEY. Well, when I was speaking of an emergency, I was speaking of the annual funds and the tendency of the budgeting man to hold back some funds for possible emergencies.

Is that what you are referring to?

Mr. FURCOLO. That is right. In other words, could he not still hold back but have the thing advertised?

Admiral JELLEY. I would not recommend that, Mr. Furcolo. Our reputation would suffer a great deal. It costs a contractor money to make a bid.

I might say that usually our bids are good for 60 days. But, if they began to feel that the Navy is asking for these bids and never awarding the contracts, we would be in a very bad situation.

Mr. FURCOLO. You would be out of the frying pan and into the fire?

Mr. KATZ. The contractor would have lost his subcontractors' prices on which he had based his bid.

Admiral JELLEY. Our reputation would suffer.

Now, I would say that there is a procedure when an emergency comes up that we can follow, and that is getting a deficiency appropriation from the committee. But in the past, in normal times at least, deficiencies have been pretty hard to get.

Mr. FURCOLO. Yes.

MONTHLY RATE OF OBLIGATION OF FUNDS IN PRIOR FISCAL YEARS

Mr. DONNELLY. Admiral, the chairman has suggested that we request the Bureau of Yards and Docks to get up commensurate charts for the previous fiscal years to give us some criteria of comparison, going back to fiscal years 1948, 1949, and so on.

(NOTE.—The Bureau subsequently supplied such charts for fiscal years 1949 and 1950. These charts are printed above, immediately following the chart for the 14-month period ended August 31, 1951.)

Admiral JELLEY. Do you mean for both maintenance funds and construction funds?

Mr. RILEY. Principally construction funds, I would think. On the other hand, it would probably be better to let us have both, Admiral.

Admiral JELLEY. I do not know whether we can get that for the maintenance funds.

Mr. PATTERSON. I do not believe we can.

Admiral JELLEY. We went to an IBM reporting procedure about 2 or 3 years ago.

Mr. KATZ. Maybe going back 1 year or so we could get the information for the maintenance funds.

Admiral JELLEY. I believe we can do it for the construction funds, but in the case of maintenance funds it would be very difficult. We may be able to get that for the previous year on maintenance funds, but beyond that I believe it would be a terrific clerical task.

Mr. DONNELLY. The people in the Bureau have made up this chart which is limited to maintenance funds for major rehabilitations, not the smaller items at all.

Admiral JELLEY. We do not keep track of all the short-form and informal contracts. Well, I guess we have the short forms, but we do not have the informal ones.

Mr. KATZ. Everything from $2,000 up should be reflected in there, I would guess. I think everything would be there but the informals. Don't you think that is right, Mr. Patterson?

Mr. PATTERSON. That is right.

Mr. KATZ. Every contract from $2,000 up should be in there.

Admiral JELLEY. Normally there are two ways in which we get funds. Sometimes they are transferred here in Washington to the Bureau of Yards and Docks, and then we transfer the funds to the appropriate district. At other times the individual stations will make money available from their maintenance allotments to the district's public-works officer, and we get a copy of that in the Bureau. We are trying to encourage them to do all of that in the field so that we will not have all of that paper work and the shuffling of papers to do here in Washington.

Mr. RILEY. Well, it is 4 o'clock.

LETTERS FROM CONTRACTORS

Mr. DONNELLY. I wonder whether I might ask the members of the committee how they would like to handle this. These are letters from the contractors that we have obtained. They have been submitted to the admiral, and he is prepared to make comments with respect to them or to have someone else do that. I do not know how the Congressmen would want to handle this.

Mr. RILEY. I would like to look them over tonight, and then we can bring that up tomorrow. Mr. Davis can then also ask about these construction contracts. He will be the first one to go ahead tomorrow.

Now, I think we had better recess until tomorrow morning. You gentlemen probably have some plans.

Admiral JELLEY. Mr. Chairman, you asked for copies of the various instructions to the field regarding the conservation of critical materials, and so on.

Mr. DONNELLY. Yes; we requested that data.

Admiral JELLEY. Here is the data. Unfortunately, one section of that had to be classified as confidential because of the existence of some confidential letters in there.

Mr. DONNELLY. Suppose I look these over, and then tomorrow we will ask what we can put in the record.

Admiral JELLEY. I think that, after you have looked them over, it will be all right to remove those that are classified.

(NOTE.—A pertinent summary of this material is printed in the appendix at p. 307.)

Mr. RILEY. Thank you very much, gentlemen.

WEDNESDAY, FEBRUARY 20, 1952.

Mr. RILEY. The committee will come to order.

Mr. Davis had a few questions this morning that he wanted to ask.

PEAKING OF FUND OBLIGATION IN JUNE 1951

Mr. DAVIS. I gathered, Admiral Jelley, from your remarks yesterday, that you have considered the 1951 year as a usual year with respect to fiscal year funds but an unusual year with respect to what you refer to as no-year funds and the reason for the latter was the condition with respect to the supplemental appropriations that did occur in that fiscal year.

Admiral JELLEY. Yes. Except that I also considered it was out of the ordinary, perhaps unusual is not the word, out of the ordinary as far as fiscal year funds were concerned on account of the number of supplementals and the uncertain and changing conditions for appropriations. What you might call the normal hump in the last quarter was greatly accentuated. It was out of the ordinary from that point of view, but it is usual to have a hump in obligations in the last quarter of any fiscal year for fiscal-year funds. Last year it was accentuated because of the extraordinary budgetary conditions existing. I would not expect that our contracting on that type of work would work out as it did last year; half of it occurring in 1 month. It might be that a quarter of it or less than a quarter of it would occur in 1 month.

Although I have no figures to show what the average would be over the past 10 years, it would be much less than half of last year.

Mr. DAVIS. Off the record.

(Discussion off the record.)

POSSIBLE STATUTORY LIMITATION ON RATE OF FUND OBLIGATION

Mr. DAVIS. In view of your statement of yesterday that you considered this kind of distribution to be uneconomical, what would be your reaction to the suggestion of a limitation on the amount of construction funds that might be obligated in any one quarter or in any one month?

Admiral JELLEY. It would be very difficult to administer on a monthly basis. It would be still difficult to administer on a quarterly basis. It has been my impression that through the apportionment system the Bureau of the Budget is attempting to spread the workload through the year. While I have no official information that that is the policy of the Bureau of the Budget, the fact that they have apportioned our construction money in increments during this fiscal year has led me to believe that they are attempting to level out our workload. When we have these large public works appropriations with a large number of projects, we have found it is very difficult to predict the time that bids will actually be taken and the contract awarded. For perhaps half the projects we will hit it right on the nose. In other projects there are unforeseen difficulties in getting sufficient foundation information or sufficient information from other technical bureau as to their requirements. In some cases we find further study is necessary before we can make the layout of a shop building, for instance. If we tried to schedule our work on July 1, for letting during the year, I predict on the basis of our past

experience our batting average would be about 0.500. We would be wrong in about half the cases. I have tried to overcome that by doing as much planning in advance as possible.

For example, our 1953 public works budget request is pretty definite now. It has been in the hands of the Munitions Board since approximately the first of January and they have commented on various projects, so that we have a pretty good idea now of what is going to be presented to Congress. I have authorized our field officers to use our advance planning money which has been granted in the past, to do all preliminary planning necessary. That is taking core borings, where there are any foundation problems, making any surveys that are required, preparing schematics of what will be required, getting information from other technical bureaus as to their technical requirements, and so forth. That costs on the average approximately one-half of 1 percent of the project. Later, when it is apparent to us that these projects have been approved by the committee, such as passage by the House, I would be prepared to go ahead and authorize our field officers to start preparation of detailed plans and specifications. In that way, we work out these difficulties in advance. We were not able to do that, on the 1951 money. That came at us too fast after the Korea outbreak. We did not have time to do the preliminary work before the appropriation was made. As a result, we had more trouble. We had to make investigations after the money was in our hands. One or two of those projects are still not under contract. I am thinking particularly of engine test cells for jet engines, which has been a new development and has required a lot of study on the part of the Bureau of Aeronautics. One Inyokern study, which went under contract recently, involved a very new and unusual high-speed testing device. By doing this advance planning at a very, very small portion of the project cost, we can get requirements clarified so that when the money is appropriated we can promptly start detailed plans and specifications or if the timing is such that we have the plans and specifications partially under way, we can get under construction reasonably soon.

I would say as an average, it took us 9 months to get our money obligated in 1951 and 6 months in 1952. So we have improved the situation by this advance planning which I think has been very valuable. I think the committee did a fine thing when they approved that advance planning money for us last year.

Mr. DAVIS. These practical difficulties appear on the face of the thing: First of all in order to get an economic spread, you ought to know how much money you are going to have during the fiscal year by the time the fiscal year starts. It is impractical to attempt to divide it anywhere near 12 equal parts for monthly obligations. It is impractical to divide it into four, anywhere near four equal parts for quarterly obligations. But might it not have a beneficial effect if there were to be written into the appropriations bill for instance, some limitation on the amount which might be obligated during the four quarters of the fiscal year? Would that strengthen your hand in getting this job done through the field offices in a more economical way?

Admiral JELLEY. I do not see how I could reply offhand to that question. It is something that is mainly within the province of Admiral Clexton because it affects the Navy as a whole. I think it

would take quite a bit of study of past operations on his part to see if there is some formula, such as a requirement that no more than one-third of the annual funds can be expended in the last quarter. Any ceiling or limitation like that would have an effect on the budget officers. There is no doubt about it. Whether it would make their job so much more difficult that we would have to come back to you for relief, I find it hard to say offhand. It is an involved and complicated question.

I can only speak first hand of our own appropriation, that is the civil engineering appropriation, which is roughly broken down into two parts: procurement, and maintenance and operation, to try to give you a quick over-all picture. Our procurement money theoretically could be obligated in the first month of the year. It is for the purchase of cranes, tractors, railroad cars, and things like that. On February 1, the year was seven-twelfths finished. We had obligated a little more than seven-twelfths of the funds and it looks as though it will be the first of May before we can get it all obligated. This is primarily because we do not have enough people to do it early in the year, to write the specifications for this complicated technical material. The rest of our appropriation consists of maintenance and operation money. A good part of that goes for the pay of civilian employees. Assuming a stable workload, that automatically spaces out every month. A small proportion of it, I would estimate not more than 10 percent, is for nonrecurring expenditures, major repairs and things like that, the type of contract projects that we have discussed here. This year we have put out all our major projects to the field, but we only had a handful of them. We put them out early in the year this time and while they might not all be obligated, they are in the hands of the field officers for obligation.

But in the civil engineering appropriation, we are concerned with only a million dollars of these major repair projects. BuAer may be thinking of $50 million worth, although as a result of my inquiry some weeks ago as to how much of a load was going to be thrown on us this year, BuAer says they won't have more than three-quarters of a million dollars to spend on major repairs between now and the end of the year and they expect to have the information to us on the individual projects before the first of April. It comes and goes. Some years, largely depending on the action of the Appropriation Committee, there is a heavy workload and in other years there is a light workload. I think it is a project that Admiral Clexton should certainly go into very carefully and it is probably one that the Bureau of the Budget should head up because it affects every Government agency.

My difficulty is this. I don't know whether you were there or not. We had quite a discussion with Congressman Wigglesworth as to how we estimated the cost of operation of our district public works offices. Our district public works officers are the ones who do the contract work. We have to estimate 18 months in advance what our workload is going to be. The workload is put on us by other bureaus who do not know how much they are going to get from Congress.

I have to assume a stable employment level of our offices. I cannot assume that we are going to have half the work coming the last month of the year. I have to make an assumption that it is

going to be spaced reasonably because we don't want to be in a position of rushing out the first of May and hiring a lot of extra personnel and then discharging them on the first of July.

We just have to work overtime, do the work in a hurried manner, when additional work like that is put on us. From the standpoint of efficient operation it would help us if by some means, our workload came to us evenly divided month by month. What that means is, it will require a lot of study.

Mr. Davis. Taking the case that you gave us, for instance, if BuAer knew, for instance, that they had to get that information in to you in time so that you could do the job, before that limitation set in, and they knew they had to get it to you or you would have to say, "Sorry, too late, here is what the law says," they would probably get it in in time so you would have a reasonable length of time.

Admiral Jelley. It might have the effect of pushing the peak from June to April or something like that. For instance, you said if you did not have the funds obligated by May 15, you were out of luck. Our peak would then show up in the first of April until the 15th of May instead of the month of June.

Mr. Davis. I didn't have in mind forcing the peak into another period nearly so much as leveling off the peak that you have got in that last quarter, forcing some of it forward, even the figure of a third that you figured probably would be too tough to try to impose immediately. But some other figure, substantially higher than what is revealed by the chart that we have before us, well, as you say, it is something that we ought to give some thought about before we start making up this bill.

DESIRABILITY OF SPACING FUND OBLIGATIONS

Mr. Furcolo. With reference to that peak business, I suppose that what it really comes down to is that we all know and have heard stories of where money is thrown around the last few days or few weeks, that every department and every agency does that—I want it to be clearly understood that I am not saying that that is what is being done here, I do not know the faintest thing about it. But I suppose what may be disturbing to the committee that has to go over this is the fact that if you looked at nothing else except that chart, it certainly would establish a case where an explanation should be forthcoming.

Now, there may be a good explanation. I, for one, certainly don't want to be understood as saying that we want you to spend the same amount of money but spread it over the months. It may be that this time is the best month it could be expended. But I think what we are all concerned about is that we don't want a situation where simply because there is money at the end of a certain period that the Navy, or some department, feels that they want to go out and spend it.

Admiral Jelley. I tried to get across the idea yesterday that the projects that that black bar on the graph represents were not hastily conceived, frivolous projects. They were projects that had been in the mill in many cases for a number of years. But the bad effect was this; here we had an office of 100 people. All year long they were working in that lower range. All of a sudden, their workload, is

five times or six times as much and last year their workload just went out of sight. Even though it is a good project and had had considerable study, when the typist is typing up the specifications and sees the stack of papers alongside her, she is likely to make typographical errors that cause trouble after the contract is signed. They go out in a hurry to the contractors who should have 2 weeks to bid, but may be only allowed 1 week to bid. The contractor has to add a little to his price to take care of contingencies.

Mr. FURCOLO. I think we see most of the bad practices or the evils of this. The difficulty is that it is incumbent on you to establish fairly well what the good points are, if there are any.

Admiral JELLEY. I do not know of any.

Mr. FURCOLO. Certainly I could not come to any conclusion on just one document alone, but it does seem that while this may possibly be the best way in the world to do this, just looking at this document (chart showing obligation of Navy funds), it would seem that it is not the best way in the world. There ought to be a pretty detailed explanation of why it is that all the things seem to be being done in that last month, when on your own testimony it has some bad practices. I imagine you are as anxious as anyone to clear it up.

Admiral JELLEY. It would certainly make our operation a lot more efficient and economical if we could count on a certain amount of work coming in every month.

POSSIBLE SOLUTION TO PROBLEM OF UNECONOMICAL SPENDING CAUSED BY PEAKING OF FUND OBLIGATIONS

Mr. FURCOLO. Would it be helpful to you in any way if some sort of a system were set up where you were not tied down in any way as far as having to spend the money, or being prevented from spending it, but where you would have to keep a fairly good running account or running report to some committee of Congress, perhaps a subcommittee of the Appropriations Committee? There are precedents for such a system.

Admiral JELLEY. I have thought of one solution. I hesitate to present it because it hasn't been discussed with other bureaus who really have different problems, but it would work as far as Yards and Docks are concerned. If it happened that we had $100,000 on the first of June that could not be obligated in a normal businesslike manner, and we were allowed to come up to the committee and say, we would like to extend the availability of so much money 2 months, or 3 months, or 1 month, or something like that, that will give us time to do this in a normal businesslike manner. I think that would work as far as these repair projects went, if the Navy would come up and say—what did that black line amount to Mr. Furcolo—$60 million? If the Navy had been able to come up to the committee on the first of June and say that we have $60 million that we urgently require for repair projects, can the availability of that money be extended to October first, so that Yards and Docks can draw up the contracts or the specifications, I won't say leisurely, but in a normal manner, that workload would have been spread over a 4-month period.

Mr. FURCOLO. Kind of like an accumulated leave proposition. In other words, you think you could do a better job if you could be

reasonably sure that you would hold on to that money and perhaps use it a couple of months later?

Admiral JELLEY. Yes. My idea would be that I would come up to the committee and say, "These are the projects." I would not just say, "We have $60 million. We want a couple more months to spend it." But we would say that this project is so many dollars and so on down the line. It is not just an indefinite blank check that we would be asking for. It would be, here we have specific projects that are necessary to our operation. We are unable to get them under contract with the fiscal year requirement, please let us have 3 months——

Mr. FURCOLO. That could be worked out on a more or less informal basis.

Admiral JELLEY. That would enable the committee to keep a finger on it from year to year. I would be afraid that any kind of limitation written into the act would just make us change our habits. We would move the peak forward or something else. Whereas if we knew each year we had to rejustify it, I think it would tend to keep our budget people a little more—well, in a businesslike manner.

Mr. PATTERSON. That procedure of extending annual money that the Bureaus were unable to spend during the fiscal year was actually done during the war. I happened to be in a position where I was spending that type of money and I know that the Bureau of Aeronautics consistently, for perhaps 3 or 4 years, would come back to Congress in June, and point out what Admiral Jelley has said, that here were funds that were justified for worthy projects that are required, but we do not have the personnel or the time or the material to expend the money, would you, Congress, please extend it for another year. I can recall at least one appropriation that was extended for 2 years. They came back twice, and the annual money became 3-year money before they got through.

Admiral JELLEY. I was not aware of that, but that would give you a chance to study that experience and see if it would be desirable.

Mr. RILEY. Off the record.

(Discussion off the record.)

NAVY METHOD OF ESTIMATING COSTS AND ALLOCATING FUNDS FOR SPECIFIC PROJECTS

Mr. RILEY. Admiral, when you start a construction job, do you estimate the cost of that job and tentatively allocate funds to that facility? Then when you get your actual bids, do you set up the firm amount, either less or more for that project? Is that the way it operates?

Admiral JELLEY. In effect, yes. We make what we call a rough estimate when we come up for an appropriation. We have no detailed plans and specifications in most cases. We would estimate on the basis of the number of square feet in a building or number of cubic feet in a building, the number of square yards of paving, or something similar. The appropriation is granted, say in the amount of a million dollars. We reserve from that appropriation funds for the engineering design which averages about 3 percent. We will reserve funds for pay of necessary Government personnel, the engineers and inspectors and so forth, which runs about 5 percent. We usually make another reservation in varying amount for possible change orders because we

know from our past experience that you are going to run into some unforeseen obstruction, you are going to run into various necessary changes that will require change orders to contracts. So we often take another reservation, I believe 8 percent is our average for future change orders. That is about 16 percent. We would then notify the field that they have a million dollars, less 16 percent, in this hypothetical case, $840,000, to do this project. The engineer then would take that $840,000 as his goal. He would try to design a building to meet the justifications we gave you at a cost of $840,000. Then bids are actually taken.

Now, that bid may come in at $800,000. It may come in at $900,000. Both of those are under the $1,000,000 that we had appropriated. Our procedure then depends on the language of the appropriation act concerned. In some cases we are allowed to switch 10 percent between projects at a particular station. If the bid is too high, we would first try, if the particular appropriation act permitted, to transfer the money from another project where the bid had come in lower. If we cannot do that, if $840,000 is all we can possibly get for the job, we would have to reduce the cost. We have spoken of these various alternatives in construction. In many cases they would have three or four alternatives to reduce the cost of the contract. We might leave off a wing of a building, or use a different type of treatment, such as a pine floor instead of an oak floor. By taking those alternatives we may be able to cut the bid down to $840,000. If we haven't got the alternatives in the bids, we would have to reject all bids, do some redesign and readvertise. That happens in a small percentage of cases.

It is pretty hard to give an exact answer to your question, Mr. Chairman, because the appropriation acts are a little different each year. I believe in this last year, we were allowed to shift between projects at a particular station but we were not allowed to shift between stations. That is, if at Pensacola we had a bid come in at $50,000 below our estimate and at Jacksonville we had a bid come in $50,000 above our estimate, we could not switch money from Pensacola to Jacksonville. However, I think 2 years ago we were able to do that. This year, certainly if one project at Jacksonville comes in $50,000 low and another project comes in $50,000 high we can transfer that money.

Mr. RILEY. You anticipated my next question. That was whether or not, if you had a lower bid at a station like Pensacola for your requirements, you were allowed to shift the difference to Jacksonville. That depends entirely on the legislation, I gather from you.

Mr. PATTERSON. And it varies every year.

Admiral JELLEY. We try to hit it on the nose. If we have $840,000 to do a project, we try to hit $840,000.

EFFECT OF APPORTIONMENT SYSTEM ON MONEY SAVED ON PARTICULAR PROJECTS

Mr. RILEY. Suppose you can get your requirements for less than that. You do not try to fill out with things that you could do without, do you?

Admiral JELLEY. Under the present system, that calls for reprograming which was mentioned in the general hearings in the last week or so. For example, let's assume a very large project where

we had a million dollars left over. We would have to go in for one of these reprograms which goes as high as the Bureau of the Budget. It could only be granted if the appropriation act was such that they were allowed to transfer the money to another authorized job that had not been financed or something like that. I think so far we have put in 10 reprograms and none of them have been approved, and I do not think they will be approved. They will have to come back to the committee for legislation. It would be pretty hard to do anything with that million dollars under the present apportionment system of the Bureau of the Budget.

Mr. RILEY. When you speak of the Bureau of the Budget, are you speaking of the Navy Bureau?

Admiral JELLEY. No, the President's Budget Bureau. This apportionment really takes care of that money. It is awfully hard to do anything with it now, with their apportionment system. Isn't that your reaction, Mr. Patterson?

Mr. PATTERSON. Yes.

Mr. RILEY. That is information that I wanted to get, that that money ordinarily then, if it were not used in the justified installation, should come back to the Treasury, but I haven't heard of too much of it coming back, and that is the part that concerns me. In the discussions that we have had, we have discussed whether or not standard barracks, for instance, on these various bases would not tend to solve the problem; instead of having a barracks that costs more money and with more refinements and conveniences and things of that kind, say at Pensacola and one without these refinements at Jacksonville, you would have a different cost.

NAVY EFFORTS TO STANDARDIZE BARRACKS

Admiral JELLEY. We have been trying to standardize barracks as much as possible. We have held up most of the air station barracks pending completion of a prototype which is going to be used at all the others. That is one I stated the other day that I told them to hold up and go to three storys instead of two storys to reduce the cost per square foot.

I think in general we can pretty well standardize. I think you can standardize on a very expensive barracks or a very inexpensive barracks. Just because we have a standard barracks doesn't mean we have to have a cheap barrracks.

Mr. RILEY. I realize that.

Admiral JELLEY. You have to tie up with that concrete frame, cement block or stucco or something else.

VARIATIONS OF CONSTRUCTION COSTS IN DIFFERENT PARTS OF COUNTRY

Mr. RILEY. It has to be realistic. I think all of us are conversant with the facts that costs vary in any locality.

Admiral JELLEY. Requirements vary. Your barracks in Pensacola are not going to resemble the barracks up in Brunswick, Maine, or the Great Lakes. Great Lakes is one of our high-cost areas because of the installation and heating requirements. Pensacola and Texas and the Gulf coast are low-cost areas.

Mr. RILEY. But it seems to me that buildings for the same purposes should be more or less standardized.

Admiral JELLEY. You saw our three standard here yesterday.

Mr. RILEY. Costs vary in various localities but these differences would be easy to estimate.

Admiral JELLEY. We show that in our cost books. You might be interested in these comparative figures: Albany, N. Y., $1; Albuquerque, N. Mex., $1; Atlanta, Ga., $0.85; Baltimore, $1; Birmingham, $0.85; Charleston, $0.85; Cleveland, Ohio, $1.05; Denver, Colo., $1.05; Detroit, $1.05; Inyokern, Calif., which is out in the desert, $1.15; Jacksonville, $0.90; Key West, which is off the end of the highway there, $1.15; that is higher cost. Memphis $0.90; New Orleans, $0.90; Norfolk, $0.90; Wilmington, N. C., $0.85. You see that varies between $0.85 and $1.15. About 15 percent. You may want to place these figures in the record.

Mr. RILEY. We will be glad to do so.

(The figures are as follows:)

1950 coefficients for computing costs, continental

Albany	$1.00	Miami, Fla	$1.00
Albuquerque, N. Mex	1.00	Milwaukee, Wis	1.00
Atlanta, Ga	.85	Minneapolis, Minn	1.00
Baltimore, Md	1.00	New Haven, Conn	1.05
Birmingham, Ala	.85	New Orleans, La	.90
Boston, Mass	1.05	New York, N. Y	1.15
Buffalo, N. Y	1.00	Norfolk, Va	.90
Charleston, S. C	.85	Philadelphia, Pa	1.00
Chicago, Ill	1.00	Phoenix, Ariz	1.05
Cincinnati, Ohio	1.00	Pittsburgh, Pa	1.00
Cleveland, Ohio	1.05	Pocatello, Idaho	1.10
Columbus, Ohio	1.00	Port Hueneme, Calif	1.00
Dallas, Tex	1.00	St. Louis, Mo	1.05
Denver, Colo	1.05	Salt Lake City, Utah	1.00
Des Moines, Iowa	1.00	San Diego, Calif	1.00
Detroit, Mich	1.05	San Francisco, Calif	1.05
El Paso, Tex	.95	Schenectady, N. Y	1.00
Inyokern, Calif	1.15	Seattle, Wash	1.10
Jacksonville, Fla	.90	Spokane, Wash	1.10
Kansas City, Mo	1.00	Tulsa, Okla	1.00
Key West, Fla	1.15	Wilmington, N. C	.85
Los Angeles, Calif	1.00	Washington, D. C	1.05
Memphis, Tenn	.90		

RECOGNITION GIVEN TO ENGINEER OFFICERS AND CIVILIAN ENGINEERS FOR SAVING MONEY

Mr. RILEY. Is any recognition given to the engineers, the men who are construction engineers or the other engineers, if they are able to get the job done for less than the estimate and show some method of saving, to get the same result which would ordinarily be expected?

Admiral JELLEY. Yes, in this way: The man is going to be put in a more responsible position on his next job, if it is an officer. If it is a civilian, it will undoubtedly lead to promotion and recognition of his efforts that way. In our Bureau, we try to spot the younger officers who are doing a good job in their billet and give them a little more responsibility on their next job, on their next station. We have had a number of cases where officers of, say, 35 or so, have done an outstanding job. In spite of what their rank might be, we put them in a

tougher job. It develops them; they are tickled to death to get that kind of recognition. It helps their service reputation and under our selection system, it gives them a much better chance of getting selected.

Mr. RILEY. Do you send them any sort of a citation that will go into their record?

Admiral JELLEY. I would not say that we do.

Mr. PATTERSON. It is reflected on the fitness report. I do know a few letters that have been written, letters of commendation from the Chief, recognizing outstanding performance and there is a matter of professional pride, too.

Admiral JELLEY. I think we recognize the lack of ability more than good performance. We expect a man to do a good quick job in an efficient and economical manner. He gets reprimanded if he does not do a good job but he does not get a special letter if he does a good job. But he gets a better billet next time and improves his reputation.

Mr. RILEY. In private enterprise or private business, the civilian method of doing business, a letter of commendation from the boss very often has a very salutary effect.

Admiral JELLEY. A bonus has a lot better effect.

Mr. RILEY. That is true, but I have seen these letters treasured, too, whether they are accompanied by a bonus or not.

Admiral JELLEY. Construction contractors often give bonuses to their superintendents if the superintendent does a job for less money which means more profit for the contractor. It is very customary for the contractor to say, "Here, we will split this. I will give you an extra $5,000" or something like that and it does a lot of good. But I will say I have been very much surprised within the last year to note how many individuals in various private companies still treasure the various commendations they got during the war for good jobs. Whether they dusted them off and brought them out during the emergency, I do not know, but they are still very proud of either a letter or a certificate of merit, or an E pennant. It is a very fine system and I think it accomplishes a lot of good.

Mr. RILEY. I am personnally of the opinion that if a commendation is in a man's file, that when the time comes to review his record to see whether or not he could assume more responsibility, it would be most helpful to him. His superior officer who knows him might have been transferred somewhere and the man who has to review that file would be brand new, would not know a thing in the world except what was in the record.

Admiral JELLEY. I think Captain Ventres would be a good one to comment on that because that is all he has been doing for the past several days.

Captain VENTRES. I can say that I have gone through a number of files within the last 2 weeks and there are a number of letters of commendation in them.

Mr. RILEY. I think that some such method as this would tend to build up a cost consciousness in the supervising engineers and would be most helpful both to the service and to the Congress and the taxpayer who eventually has to foot the bill.

Before our armed services reached the proportions that they are now, these things were not noticed as keenly as they are presently. But with this tremendous budget, the average citizen is questioning

every dollar that you spend and they hold us responsible because we represent them, so we have to pass the criticism on to you.

Admiral JELLEY. As a corollary, Mr. Chairman, there used to be 115 or so officers in the Civil Engineering Corps before world War II, and I think I knew at least 90 of those 115 personally. Now we have 1,500 officers on active duty. I probably know 500 of them personally. And I am in an advantageous position to get to know them. I doubt whether the average officer knows more than 150. Before the war, we knew that officer's reputation by personal experience. Now, we have to work from records and the written word. So your suggestion of letters of commendation is even more applicable with the much larger number of officers we deal with.

BRIEFING OF FIELD ENGINEERS BY BUREAU IN WASHINGTON

Mr. RILEY. One other thought occurs to me, an example taken from private business. Do you ever call all of your engineers in and have 2 or 3 days' conference and brief them on the general policy?

Admiral JELLEY. Yes, sir; we did that last December. We brought all our district public-works officers in, in preparation for the second supplemental bill. It was a two-day conference, formal agenda, and formal record, as I recall, sent to them later. We did the same thing in July to bring them up to date on the 1952 bill. In addition, we have had conferences with the transportation people in the districts. We just had a conference in January with the people charged with maintenance planning. I am planning to have another conference with the district public-works officers as soon as our 1953 public-works bill is a little more definite, when we can see a little bit more about the timing. As I understand, the authorization bill is just about to reach the Armed Services Committee now, so probably around the 1st of April we will have another conference.

I have found that method very valuable. In addition, we tried something new this last month in order to prepare myself for my appearance before the appropriation committees. I wanted to get up-to-date information on the progress of our construction jobs. Captain Kehart, who is our Assistant Chief for Operations, visited the Fifth and Sixth Naval Districts where a large proportion of our work is and his deputy, Commander Fisher, visited the Eleventh and Twelfth Districts.

We had the other district public works officers, whose programs were smaller, come into the Bureau one at a time with their principal assistants and then we went over their work, project by project. We asked them questions, and they told us what their bottlenecks were and what we had to do to help them out. That has been very valuable. We have a complete picture of just where our program is. We found out what was stopping the individual projects in the various districts, whether it was lack of information from one of the technical bureaus that we could do something about, or whether it was a real estate hold-up that we could do something about. It gave us a chance to put a finger on where they were falling down. With this decentralization to the districts, that close relation is very necessary. We just cannot give them a job and forget it. We have to keep in touch with it in as many ways as possible.

Mr. RILEY. I feel so, too.

Recognition of Contractors Who Have Saved the Government Money

Mr. Furcolo. I do not know whether this suggestion has any merit or not, but as long as we are on this other topic, I wanted to ask you about it. Where there is competitive bidding, suppose the Defense Department compiled what you might call a blue-ribbon list of contractors to include contractors who, after having been awarded a contract in competitive bidding, later on voluntarily made some return of that money to the Government.

Could that be subject to abuse, as far as favoritism is concerned, if it was done solely on the basis of competitive bidding? On the other hand, if the contractor had shown his desire to cooperate with the Government in trying to save money, with the incentive in mind that perhaps instead of taking $200,000 profit on this job he might cut it down to $150,000 profit on the theory that that was going to give him a little bit of an edge the next time in competitive bidding, it might bring in some money to the Government. It would call for some changes in the law, of course, and it would need many safeguards and other precautionary measures.

Admiral Jelley. What would you call this blue ribbon list?

Mr. Furcolo. There would be a list of concerns who had returned money to the Government when they did not have to. Assume concern A is on such a list, and he bids on a job where there is competitive bidding. If it is a question between concern A and concern B, both equally qualified, both of the same level of bidding, that so-called blue-ribbon one, concern A, would get the nod on the theory——

Admiral Jelley. That situation would not occur once in a thousand cases. If one of them is one cent lower, he is the low bidder.

Mr. Furcolo. It might call for some change in the law. They do something like that if you have a small-business man.

Admiral Jelley. It would have an advantage, but I remember only one tie bid in all my experience where we pulled slips out of the hat.

It could be used this way, Mr. Furcolo. If we decided on a particular job that we wanted to limit the bidders for one reason or another, instead of publicly advertising through post offices and papers as we do on a normal job, we could put people on that limited list of bidders who were on this blue ribbon list you describe, or if we went into a situation where they were going to have a cost-plus-fixed-fee contract, we would limit negotiations to those people.

Offhand, though, I think it would be very, very hard to administer and it might be unfair. The best contractors in the country might bid on a dozen jobs and not get one of them; yet he would be the fellow we would want to negotiate a contract with on a cost-plus-fixed-fee basis or a limited-fee basis. What you have described has happened to us in the past, not on bid contracts but where we have negotiated with one man to do a job on a lump-sum basis. Toward the end of the past war I remember definite cases, two definite cases—I am sure there were more—where the contractor came back and said, we were a little too cautious and the job didn't cost as much as was expected, so we want to return money to you.

Mr. FURCOLO. We had a case where a contractor who had done a job for the Government later voluntarily returned $450,000. Now, the mere fact that he came back with $450,000 does not necessarily indicate to me that that was all good will or patriotism. It undoubtedly was, but I can see where it would not necessarily have to be. But assuming that it was, a man like that certainly should have incentive. Perhaps he ought to get the same kind of a pat on the back as is reflected in the fitness report for Navy personnel. I would like to see him getting something in addition to an E.

Admiral JELLEY. It helped one company in particular that I am thinking of. I think they turned back a million dollars. In the first place, it was not altogether altruistic. He was in the 90-percent tax bracket and maybe he would only have kept $75,000 or $90,000 of that. He did it, however and certainly improved his reputation with us.

Yet that company during the last year and a half has not been low bidder once. They have been in there bidding. They have been second and third and even within a half of 1 percent of the low bid, but they haven't been low bidder. Of course, we haven't been able to say, "Well, low bidder, we don't think you are qualified, so we are going to give it to this fellow who is on our blue-ribbon list."

Mr. FURCOLO. Off the record.

(Discussion off the record.)

JUSTIFICATION FOR NEGOTIATED CONTRACTS AND COST-PLUS-FIXED-FEE CONTRACTS INSTEAD OF COMPETITIVE BID CONTRACTS

Mr. FURCOLO. This question is with reference to your negotiated lump-sum contracts, which, as I understand, the Department of Defense according to this paper here, says justifies only by the time it saves in emergencies.

Admiral JELLEY. I would not say only that, but that is one of the reasons.

Mr. FURCOLO. Here is what I want to find out. Whatever the reason may be for it, who decides whether a contract is to be negotiated or competitive bidding? Is it you, or someone in the Department of Defense, or just who?

Admiral JELLEY. Providing it is permissible under the Armed Services Procurement Act and present regulations, because we can't negotiate contracts in every case.

Mr. FURCOLO. We have something that comes within the rules and regulations but who decides that?

Admiral JELLEY. I have the authority to decide up to $300,000. Over $300,000 I have to get clearance from the Contract Section of the Office of Naval Matériel. I think without exception they have approved our requests.

Now, I have delegated that authority to my Deputy, Captain Hunter. If I am not in town, or out, he can make the decision. For a while last spring, when the tempo was different and the international situation was more serious we delegated to our Assistant Chief for Operations in the Bureau that responsibility on very small contracts, under $25,000. But when the situation eased, along last summer, after the so-called truce, we even withdrew that authority and today if they want to negotiate a contract, they would have to come to me or my deputy.

Mr. FURCOLO. In other words, the man out in the field does not have any say?

Admiral JELLEY. He recommends it. We would not arbitrarily say in Washington go ahead and negotiate the contract. The man in the field would come to us and say I think we ought to negotiate the contract and we would make him prove his case.

Mr. KATZ. If the contract is under $2,000 he can negotiate without clearance.

Mr. FURCOLO. We may already have this, I do not know, but I would be interested in knowing what percentage in figures——

Admiral JELLEY. I have information here on all contracts, both public works construction money and annual maintenance money within the United States. Last year we had 3,555 contracts totaling $389 million. Of this, 70 were negotiated; about 2 percent. The negotiated contracts included contracts with limited lists of bidders.

Less than 20 were negotiated with an individual and of these 13 were cost-plus-fixed-fee contracts. Most of these were for the rehabilitation of buildings at stations which had been shut down, such as Bainbridge.

Mr. DONNELLY. And Shumaker.

Admiral JELLEY. Shumaker was a little different. That was an incompleted job that we went in to complete. Most of the cost-plus-fixed fee contracts in the continental United States were for rehabilitation of closed-down, inactive stations where we could not specify the amount of work to be done in advance.

The 13 CPFF contracts amounted to $31 million of which about $17 million was in the Bainbridge job. We had 57 lump-sum negotiated jobs and they totaled $24 million. Only five of them were over $1 million.

Furthermore, most of our lump-sum negotiated contracts were not negotiated with one hand-picked outfit—we selected four or five qualified firms and had them submit competitive bids, and we made award to the low bidder.

Only on one large contract, which was the largest one as a matter of fact—$7,290,000—did we have direct negotiation. That was at Oceana for the work on the runways there. We had two contractors working as a result of advertised bids on the original increment. When the remainder of the money came up, we went to those contractors and said, "Look, if we take bids, that means that somebody else might come in here and have to set up his asphalt plant and rock crushers and all that. It is going to interfere with air operations."

We do have a few in here that were negotiated with one man where there was no one else who could do the work but I would say we didn't have 15 and they were almost all small ones.

NAVY FUNDS OBLIGATED BY BUREAU OF YARDS AND DOCKS

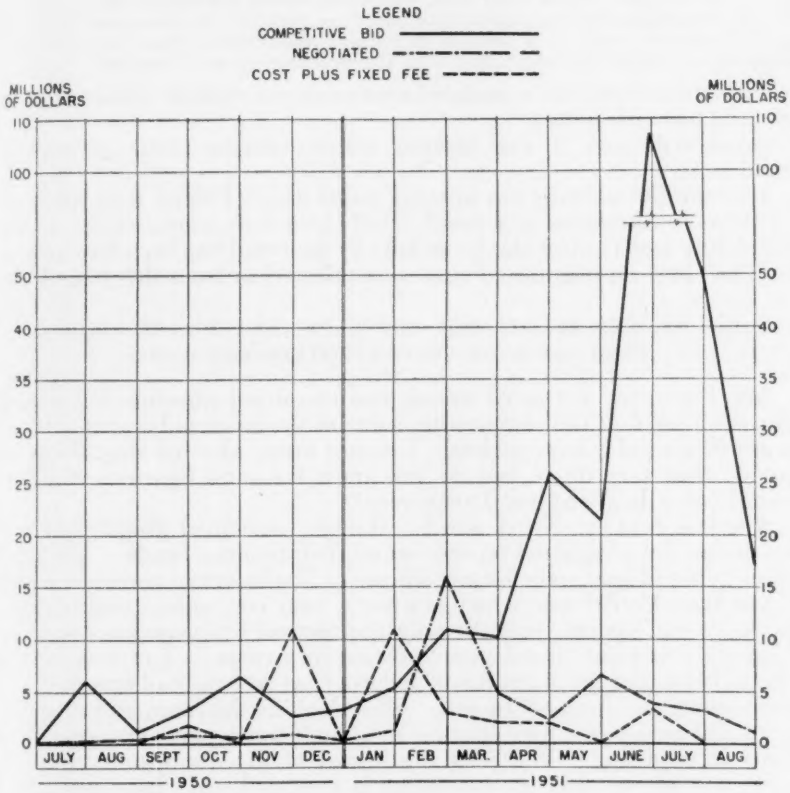
Mr. RILEY. One minute, please. I want to put this graph, please, in the record at this point. It is entitled "Funds of Department of Navy Obligated by Bureau of Yards and Docks," and it shows the breakdown on graphic basis of the rate of fund obligation.

(The chart is as follows:)

MILITARY CONSTRUCTION("PUBLIC WORKS-NAVY")-ZONE OF INTERIOR
AND INCLUDING CONTRACTS AWARDED AGAINST
APPROPRIATIONS OTHER THAN "PUBLIC WORKS - NAVY"

FUNDS OF DEPARTMENT OF NAVY OBLIGATED BY BUREAU OF YARDS AND DOCKS

FOURTEEN-MONTH PERIOD ENDED AUGUST 31, 1951



Mr. DONNELLY. The next document relates directly to the admiral's statements just made about negotiated contracts. This gives the story as to negotiated contracts of a million dollars or more. The admiral just testified with respect to Oceana. That is the first contract shown. Then the number of contractors considered are shown in column 6 as two, and then we are referred to footnote 1. Footnote 1 says:

> These two contractors were engaged on separate contracts extending runways at NAAS, Oceana. Since their work was substantially completed approximately 6 weeks in advance of completion date and since they had demonstrated excellent performance and were in a position to initiate construction work immediately a lump-sum contract was negotiated with the two firms in joint venture.

This chart shows all negotiated contracts of a million dollars or more in the 14-month period.

Admiral JELLEY. I was talking about calendar 1951 instead of fiscal 1951.

I would like to bring out another point which I think is of interest: Of these 70 contracts, as I recall, 59 of them were executed before the 1st of July and 11 after the 1st of July so the trend has been downward.

(The chart on negotiated contracts referred to faces this page.)

TOTAL OF, AND REASON FOR, CONTRACTS AWARDED IN FIELD ON NEGOTIATED OR COST-PLUS-FIXED-FEE BASIS

Mr. FURCOLO. I wanted to ask you one other question in connection with the fact that apparently some of the go-ahead on these items is out in the field, more or less. I do not know whether they do or do not do that very often, but do you know the total figure to which it would come as of any particular year?

Admiral JELLEY. No; I don't. We are concerned about that but we do not get obligation reports on all maintenance funds. We have three types of contracts for our officers. The informal contract which is less than $2,000, and which is a very, very convenient tool because there we can operate just the way the normal businessman operates. Suppose you want to get new linoleum in a room. You look in the phone book and get a couple of fellows that put in linoleum and say come down and look at the job. They look at the room and measure it up and give you a quotation. You don't write plans and specifications or anything. You pick the lowest of the quotations you get, write the fellows that the quotation is accepted. He goes down and does the job. You certify the quotation if the work has been done properly. He takes it to the paymaster and the paymaster writes a check. It is the most convenient thing you can imagine for these small special jobs. It has helped the public works officers who have to keep a force of civilian personnel for maintenance work very much. He doesn't have to keep a linoleum man on the payroll all the time. Where an occasional linoleum job comes up he goes out to town and gets it done.

Then we have a short form contract which is for work costing less than $10,000 where we can make one payment. There they have plans and specifications, but usually in a lot simpler form. Our contract—which I believe Mr. Katz and Mr. Patterson get most of the credit for——

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DATA ON CONTRACTS LE

ON NEGOTIATED BASIS BY BUREA

NAVY FUNDS FOR MILITARY C

FOURTEEN-MONTH PERIO

Col. A Contract No.	1. Location	2. Brief description of Work	3. Date of Design Authorization by Using Service	4. Date Proposals Solicited	5. No. of Days Allowed Contractors to Submit Proposals	6. No. of Contractors Considered	7. No. of Proposals Received	8. Original Date of Award by Letter or Otherwise	9. Plans & Specifications Complete Date (Item Not Applicable)
FIFTH NAVAL DISTRICT									
24561	Naval Auxiliary Air Station, Oceana, Va.	Improvement and extension to airport pavements	28 Sep 50			2 *See Note 1	1 *See Note 1	9 Jan 51	
27129	U. S. Naval Air Station, Norfolk, Va.	Grading, Stabilization, Paving, Draining, Lighting, Topsoiling, Marking and Seeding for Extension to Airport Pavements	6 Jan 51	10 Apr 51	20	7	4**	21 June 51	
28432	U. S. Naval Fleet Air Defense Training Center, Dam Neck, Va.	Combat Information Center and Fire Control Building and Gunnery Instruction Building	6 Jan 51	*See Note No. 2				24 July 51	

*Note 1 - These two contractors were engaged on separate contracts extending runways at NAAS, Oceana. Since their work was subst performance and were in a position to initiate construction work immediately a lump sum contract was negotiated with th

*Note 2 - Contract NOy-28432 was originally advertised for bids. There was one bid received, that being from Virginia Engineerin into with this bidder with the view towards reducing cost of above facilities. Negotiations were concluded on 16 July under Contract NOy-26839, dated 28 April 1951, being low bidder at $4,613,000. for expansion of facilities at FADTC, Da forming work at the site and they could not compete due to costs which would be incurred in setting up equipment to st

ELEVENTH NAVAL DISTRICT									
24898	Marine Corps Recruit Depot, San Diego, Calif.	Temporary Barracks and Facilities	13 Feb 51	20 Feb 51	6	4	3**	26 Feb 51	

**Technically classed as a negotiated contract because they were not advertised. Competitive bids from a selected list of cont

$1,000,000 OR MORE

YARDS & DOCKS IN OBLIGATING

UCTION (ZONE OF INTERIOR)

DED AUGUST 31, 1951

& Specifications Fully ted on Award ? If ete eted	10. Amt. of Contract	11. Name & Address of Successful Contractor	12. No. of Days Allowed For Completion	13. Liquidated Damage Penalty Per Day, If Any	14. Amt. & Date of each Increase of $100,000 or More Over Contract Amt. Through Change Orders, Addenda, Supplemental Contracts Etc.	15. Brief description of Work Embodied in Such Increase
es	7,290,912	Bowe Contracting Co., Inc. and T. E. Ritter Corp. 426 West York St. Norfolk, Va.	212	500	+ 329,884 27 June 51	Construct 23,000 feet of railroad with extension of contract time to be determined later.
					+ 337,783 27 June 51	Construct sewage disposal plant. Contract time extended to 1 Sept for this change only.
					+ 530,825 29 Aug 51	Provide complete jet aviation fuel storage facility with extension of contract time to be determined later
es	4,804,210.55	Ralph E. Mills Co., Inc. Salem, Va. and Blythe Brothers Co., Inc. Charlotte, N. C.	205 - Total 169 - phase (Sub) Fill 159 for sand drains, etc.	750	Change E - + 502,378 29 Oct 51	Additional excavation, borrow 100,000 tons asphaltic concrete, 400' fencing.
					Change F - + 136,904 16 Nov 51	Misc. work in connection with lighting and electrical distr. sys.
					Change D - + 302,713 28 Sep 51	Strengthen landing mat, excavation and fill.
es	2,320,000.	Virginia Engineering Co. Inc. 30 29th Street Newport News, Va.	353	600	None	None

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in amount of $2,421,000. Bid was considered somewhat high for scope of work involved. Negotiations were entered
951 with total reduction of $101,000. The Virginia Engineering Co. is presently performing work at this activity
Neck. It is believed that other contractors did not bid on this job as they knew Virginia Engineering was per-
t construction operations.

es	2,359,489	L. C. Anderson - Fraser Co. 3040 Hancock St. San Diego, Calif.	149	450	Change C - + 119,367 7 Dec 51	Erect 55 additional Quonset Huts.
					Change D - + 162,475 7 Dec 51	Erect 75 additional Quonset Huts.

ractors were received and the award was made on a competitive bid basis.

Revised 15 Feb 52

Mr. FURCOLO. Put that in their fitness records.

Admiral JELLEY. It is written upon one sheet, both sides. The trick to it, is that there is one payment. No partial payments are made, that is why we limit it to $10,000. If we limited it to $100,000 or something like that, only large contractors could do it. But most of the contractors can swing a $10,000 job on a one-payment basis. The average job runs around $4,000 or $5,000. That has been very handy. The local public works officer has almost complete authority to use informal contracts and short-form contracts. For anything over $10,000, he has to go to the district public works officer and the district public works officer handles that in the normal procedure.

Admiral JELLEY. GAO has reviewed it. We had considerable trepidation that the Comptroller General would find something wrong with it. He has reviewed it and approved the payments under it.

Mr. FURCOLO. On $2,000 and under $10,000, would your guess be that the total amount spent on that would be under $100,000?

Admiral JELLEY. You mean the country as a whole?

Mr. FURCOLO. Yes.

Admiral JELLEY. No, sir; it would be much larger.

Mr. PATTERSON. We have looked into it from time to time. That so-called informal contract—which incidentally has been on the statute books for many years—was originally $1,000, but $1,000 is now $2,000.

Mr. FURCOLO. Inflation.

Mr. PATTERSON. But all agencies of the Government have that section of the statutes. But it is largely maintenance money. Those contracts do not have to be filed with the Comptroller General. They do review the payment vouchers. There is virtually no way of adding it up.

Admiral JELLEY. They are not accounted for separately in the accounting system.

Mr. PATTERSON. We estimated at one time probably 50 for some 100 locations. It might average, say 5,000 a year and in those days would be $1,000 or less per contract.

Admiral JELLEY. I would say between 5 and 10 million dollars.

Mr. PATTERSON. All maintenance money, virtually.

Mr. FURCOLO. Would your estimate go as high as 5 or 10 million dollars? Would you say it is over $3 million?

Mr. PATTERSON. Yes.

Mr. FURCULO. That is money that is practically impossible to keep too accurate a check on?

Mr. PATTERSON. The Comptroller General doesn't require it.

Admiral JELLEY. There is local control.

Mr. PATTERSON. It has local control and the Comptroller General does review the payment vouchers. The Comptroller does not review the actual contract.

ADMIRAL JELLEY. These disbursing officers are tough. He does not pay off unless he is sure everything is O. K.

Mr. KATZ. All that assures us is that the work has been done. The disbursing officer makes sure the work has been done but he has no responsibllity for whether it should have been done or not.

Admiral JELLEY. That is the responsibility of the commanding officer.

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Mr. FURCOLO. Inflation.

Mr. PATTERSON. But all agencies of the Government have that section of the statutes. But it is largely maintenance money. Those contracts do not have to be filed with the Comptroller General. They do review the payment vouchers. There is virtually no way of adding it up.

Admiral JELLEY. They are not accounted for separately in the accounting system.

Mr. PATTERSON. We estimated at one time probably 50 for some 100 locations. It might average, say 5,000 a year and in those days would be $1,000 or less per contract.

Admiral JELLEY. I would say between 5 and 10 million dollars.

Mr. PATTERSON. All maintenance money, virtually.

Mr. FURCOLO. Would your estimate go as high as 5 or 10 million dollars? Would you say it is over $3 million?

Mr. PATTERSON. Yes.

Mr. FURCULO. That is money that is practically impossible to keep too accurate a check on?

Mr. PATTERSON. The Comptroller General doesn't require it.

Admiral JELLEY. There is local control.

Mr. PATTERSON. It has local control and the Comptroller General does review the payment vouchers. The Comptroller does not review the actual contract.

ADMIRAL JELLEY. These disbursing officers are tough. He does not pay off unless he is sure everything is O. K.

Mr. KATZ. All that assures us is that the work has been done. The disbursing officer makes sure the work has been done but he has no responsibllity for whether it should have been done or not.

Admiral JELLEY. That is the responsibility of the commanding officer.

Mr. PATTERSON. It is used to go down to hardware store and used to buy a keg of nails.

Admiral JELLEY. Oh, no, not our informal contracts.

Mr. PATTERSON. The supply officer will buy the keg of nails under the same legislative authority. We would do sidewalk patching or linoleum laying.

ADMINISTRATIVE CHECK ON INFORMAL CONTRACTS

Mr. FURCOLO. What is the best check that you have to show that it is not subject to abuse?

Admiral JELLEY. In each naval district we have a district public works officer with a complete engineering office. He works with the local public works officer, and in most cases the local public works officer is designated as resident officer in charge of construction. He has a chance to see how the local public works officer operates, what are his capabilities and so on. In addition, on the district commandant's staff we have what is called the district civil engineer, who is senior to the district public works officer. He works for the commandant while the district public works officer heads an independent activity.

The district civil engineer is the commandant's representative and it is his responsibility to see that the work at the individual installation is done efficiently and effectively. He visits each station at least once a year and important stations more often than that and he views the public works officer's operation: Has he too many people in the department, is he properly organized, and things like that.

POSSIBILITY OF ABUSE OF INFORMAL CONTRACTS

Mr. FURCOLO. Can that money be used in addition to work that is being done under some contract? In other words, if I am doing a job some place as a contractor, and part of my job is to fix a roadway, in addition to the money that is being spent under the contract to do that, is there any local man who can bring in someone else out of this other $2,000 item to do some work on the same operation, that I am doing under the contract?

Admiral JELLEY. I suppose it would be theoretically possible. What I thought you meant, if we had a contractor, a paving contractor putting in a new road, while some other road of the station was to be patched. Since we had a man in there with the roller and so on, could you give him one of these informal contracts to do that work?

Mr. FURCOLO. The same job.

Admiral JELLEY. If somebody was trying to pull a fast one, he would not be worrying about——

Mr. FURCOLO. What I mean is this: say I am in charge of some station down there and friend John Smith has a contract for $50,000 to fix this road. He says, "I am not going to make a nickel on this, but can't you hire my brother who is a contractor to fix this other thing for $2,000 and I get even." I don't say it is being done but can it be done?

Admiral JELLEY. Not the same work.

Mr. FURCOLO. That is the answer I want.

Mr. KATZ. There is a construction inspector on there for one thing who is supposed to check on the fellows who do the work and if two

fellows are doing the same work he should tell the officer in charge in a hurry.

Mr. FURCOLO. It can't be done unless there is some dishonesty, which we will not assume for the purpose of this discussion.

Mr. PATTERSON. You may say that money spent that way is under control of the sponsor bureau for maintenance. I can't recall a single case where we sent out public works money for that type of contract. It is mainly a little maintenance type contract and I would say 99 or better percent of the money is all under the control of your local commanding officer. It is his annual maintenance money for the operation of the station. It is not used for public works construction to any great extent.

Admiral JELLEY. I think this informal contract is one of the best tools we have. I remember the difficulty we had in getting the Comptroller General to give it to us, so we are very zealous in policing its use. What we are most worried about is the fellow takes a $5,000 job and cuts it into several parts and uses his informal contracts to accomplish it instead of using the short form contract as he should. We have had cases like that. One of them resulted in a letter of reprimand. I publicized it to all our people. Here is a fellow who has split his job up in violation of instructions and he got in bad. I am not worrying about the dishonesty angle of it. I am worried about the Comptroller General saying you are abusing the privilege, and restrict its use.

Mr. PATTERSON. That is not limited to the military. That authority in one form or another is granted to any procurement officer in the Federal Government.

Mr. FURCOLO. I was not criticizing you or your system, but if it developed that there was a fairly sizable amount of money that could be expended without too much check and without bidding and so on, the $3 million is a fair amount of money.

Admiral JELLEY. That money is spread over four-hundred-odd stations.

Mr. FURCOLO. I understand that.

Mr. RILEY. We will put in the record at this point the Navy's summary of recent examples of misuse of informal contracts and Admiral Jelley's letter on the subject.

(The summary and letter are as follows:)

DEPARTMENT OF THE NAVY,
BUREAU OF YARDS AND DOCKS,
Washington, D. C., March 21, 1952.

Subject: Letters of censure for violation of instructions.

1. A Civil Engineer Corps officer is receiving a letter censuring him for inept contract administration in that he violated instructions which prohibit the splitting of single projects into two or more increments of less than $2,000 in order that the work could be performed under informal contracts. He also delegated authority to execute informal contracts to subordinate officers in violation of Bureau instructions. The work should have been performed under formal competitive bid contracts for each complete project. In the instant case, during the period March 7, 1951, through October 18, 1951, there were 141 informal contracts awarded; 28 of the 141 informal contracts were for work on the same building; 13 of the 28 contracts were awarded on the same day in the aggregate amount of $22,900. In addition to this, there were 21 other groups of specific projects which were split into 86 separate informal contracts. Although in many of the cases competitive bids were secured, the splitting of the work was contrary to Bureau instructions and indicated poor administrative judgment.

2. This officer is also being relieved of his duties.

3. As a result of this and other lesser cases, I have addressed a letter to all civil engineer officers on active duty cautioning them to adhere strictly to the instructions regarding the use of informal contracts and to live within the current-cost limitation. A copy of this letter is attached.

J. F. JELLEY,
Read Admiral, CEC, USN, Chief of Bureau.

DEPARTMENT OF THE NAVY,
BUREAU OF YARDS AND DOCKS,
Washington, D. C., February 20, 1952.

From: Chief, Bureau of Yards and Docks.
To: All CEC officers on active duty.
Subject: Violations of informal contracts.

1. I have been greatly disturbed by recent indications that the rules and regulations governing the use of informal contracts are not being sufficiently observed at many of our field activities. The Bureau has repeatedly been placed in an embarrassing position on this account and one CEC officer was recently given an official letter of censure because of violation of the instructions.

2. In order that you may appreciate the gravity of these offenses and may realize why I am so disturbed, I would like to review the history and background that led to the establishment of informal contracts.

3. In August 1943, the Bureau first promulgated authority to enter into informal construction contracts. This new type of contract was one of the biggest innovations in methods of contracting to come out during the war. Prior to that time, it was required that all contracts for construction, regardless of size, should be formal NOy contracts. Time and again, small maintenance and repair projects involving special trades or equipment not available to yard labor would be delayed for several weeks while specifications were being prepared and jobs advertised. These delays on these small jobs were often most serious.

4. In the original authority in 1943 and in all subsequent instructions (the current one being paragraph 19–01 (3) of the Contract Administration Manual, NavDocks P–49), there were prohibitions on exceeding the limit of cost by splitting a project into two or more small projects, each of which is within the limit of cost. When this restriction is violated, the public-works officer subjects himself to the possibility of a letter of censure and possibly even a court martial. If however, repeated violations continue to occur, the Bureau may have to withdraw all authority to enter into informal contracts. The reason will be that we will have violated the Armed Services Procurement Act which requires, with certain specific exceptions, that contracts shall only be awarded after advertisement and unrestricted competitive bidding; also, if the sum of the individual informal contracts that make up a total project exceed $2,000, we will have violated the Davis-Bacon Act on wage rates.

5. I am sure that you would all feel that if informal contracts are abolished, it would be a distinct loss to all public-works officers and that the expeditious handling of your work would be greatly handicapped.

6. The most flagrant case that has come to my attention involved awarding 13 separate informal contracts, aggregating $22,900 on the same day to the same contractor for various items of work all located in one building. In another case, two consecutive informal contracts were awarded for $1,995 each for sandblasting, painting, and repair of mooring buoys. True, there were different mooring buoys involved, but from a contractor's point of view, it was all one project, and to make this situation worse, there was $150 worth of Government-furnished material on each contract. In another case, 16 separate informal contracts for $500 each were awarded simultaneously to one contractor for identical repairs in 16 Naval Reserve armories located in 16 different cities. Again, from the contractor's point of view, this was only one project. Many painting contracts have been awarded with the excuse that they covered different buildings. However, they were awarded at approximately the same time and charged to the same maintenance allotment. The above are only a few of the large number of violations.

7. Another method of increasing the limit has been used by at least two stations to my knowledge and that is to purchase material under a supply officer's contract and have it installed under an informal construction contract, where the sum of the material and informal contract is in excess of $1,999.99. Although there is no specific prohibition against this action in the Contract Administration Manual, it should be obvious that it is simply another method of exceeding the limit of cost of informal contracts and should not be done.

(Face p. 151)

8. Since it is impossible to legally increase the limit of cost of informal contracts, each and every public-works officer must live with them legally under the current cost limitations.

J. F. JELLEY, *Chief of Bureau.*

Admiral JELLEY. The average station would not spend more than $50,000 under informal contracts during the whole year.

Mr. FURCOLO. But on the floor of Congress, if the point came up, I would hate to be in a position where they said, well, they are spending a few million dollars but we do not know where or how; that is why I thought you should clear that up.

Mr. PATTERSON. That can be identified through the Management Bureau that puts it out. They have a record of it.

Admiral JELLEY. It is accounted for just like purchases of material or hiring a man. It shows up in the accounting record. We do not get a copy of it. They are spending other people's money. So we do not get copies of it so we cannot actually tell what the actual dollar sum is.

Mr. PATTERSON. As a matter of fact, the Bureau of Supplies and Accounts spends much more for material than our public works offices do for repairs. It is not used for authorized public works projects.

NAVY USE OF COST-PLUS-FIXED-FEE CONTRACTS

Mr. DONNELLY. The next exhibit we would like to put in the record is entitled, "Data on Contracts Let at Estimated Cost of $100,000 or More on Cost-Plus-Fixed-Fee Basis by the Bureau of Yards and Docks in Obligating Navy Funds for Military Construction for the Zone of the Interior."

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Mr. DONNELLY. That title further says, "Fourteen-Month Period Ended August 31, 1951."

In column 3, it shows the number of contractors considered; column 4, the date of contract award; column 5, the amount of the contract; column 6, the name and address of the contractor; column 7, the percentage of the contract paid in fee to the contractor. And there are other columns which identify other data.

Mr. FURCOLO. Could you detect a situation where a man was building up his cost to earn a larger fee?

Admiral JELLEY. A cost-plus-percentage contract is illegal.

Mr. PATTERSON. It was only used during World War I for a little while.

Mr. KATZ. If the costs go up over our estimates, there is no change in the fee; but if we add more buildings, then the fee changes.

Mr. PATTERSON. If the work changes in scope, you change it for new work.

CIRCUMSTANCES UNDER WHICH NAVY USES (1) COMPETITIVE BID, (2) NEGOTIATED, AND (3) COST-PLUS-FIXED-FEE CONTRACTS

Mr. DAVIS. Suppose we ask the admiral to outline the circumstances under which a cost-plus-fee contract is used by the Navy.

Mr. DONNELLY. By way of background for that, I should like to read a colloquy in the hearings on the first supplemental for 1951

DATA ON CONTRACTS LET AT ESTIMATED COS

ON COST-PLUS-FIXED FEE BASIS BY BUREAU OF YAR

NAVY FUNDS FOR MILITARY CONSTRUCTION (ZO

FOURTEEN-MONTH PERIOD ENDED AUGUST

NCy Number	1. Location	2. Brief Description of Work	3. No. of Contractors Considered	4. Date Contract Awarded	5. Amt. of Contract or Estimated Cost of Work	6. Name & Address of Contractor	7.
HST NAVAL DISTRICT							
22719	Newport, R.I.	Rehabilitation of Designated Buildings and Facilities at U.S. Naval Training Station	7	6-15-50	1,400,000	Gilbane Building Co., Inc., 90 Calverley St. Providence, R.I.	
RTH NAVAL DISTRICT							
24191	Trenton, N.J.	Architectural and Engineering Services in connection with U.S. Naval Aeronautical Turbine Laboratory	1	12-12-50 Est.Const. Cost Arch-Engr. Serv. Engr. Services	629,100 555,000 49,000 580,100	Frank Grad & Sons and Burns & Roe, (Des Inc., 167 Market St., Newark, N.J.	
FTH NAVAL DISTRICT							
24565	Bainbridge, Maryland	Rehabilitation of certain structures and utilities, services, procurement of operational equipment	6	1-10-51	17,411,136	Consolidated Engineering Co., Inc., St. Pau and Franklin Sts., Baltimore, Maryland	
26147	Little Creek, Virginia	Repairs and additions to miscellaneous structures at Naval Amphibious Base	6	3-10-51	1,192,100	Doyle & Russell 823 West 21st Street Norfolk, Virginia	
XTH NAVAL DISTRICT							
24357	Jacksonville, Florida	Rehabilitation of Facilities at Naval Air Training Center	5	1-5-51	1,377,730	George D. Auchter Co. P.O. Box 1193 Jacksonville, Florida	
ENTH NAVAL DISTRICT							

ATED COST OF $100,000 OR MORE

U OF YARDS & DOCKS IN OBLIGATING

TION (ZONE OF INTERIOR)

AUGUST 31, 1951

ss r	7. Amt. of Fee to Contractor in Percentage	8.(a) Percentage of Contract Completion	8.(b) Percentage Paid For Overhead	9.(a) Amt. & Date of Each Increase of $100,000 or More Over Contract Amt. Through Change Orders, Addenda, Supplemental Contracts, Etc.		9. (b) Change Order Letter	10. Brief Description of Work Embodied in Such Increase
ing Co., erley St. .I.	3.22	100	7.58	None			
Sons oe, (Design)	0.47			None			
ket	6.89	25.2	9.3				
.J.	6.89	54.4	6.7				
ngineer- , St. Paul Sts., ryland	2.03	54.3	17.83	110,000	5-3-51	"A"	Installation of Partitions Bldg. 522,523,5
				c r.(350,000)	6-26-51	"D"	Procurement of operational equipment
				1,155,400	7-5-51	"E"	Miscellaneous Alterations
				296,700	8-10-51	"F"	Alterations Bldgs. 622,624,621,623
11 Street ina	3.12	45	17.8	662,750	5-21-51	"C"	Miscellaneous Rehabilitation Projects
nter Co. Florida	3.32	65.84	9.00	500,000	7-23-51	"B"	For Fasron Aircraft Building No. 200

23197	Shumaker, Arkansas	Construction and/or completion of Facilities at Naval Ammunition Depot	1	10-5-50	30,800,000	Winston Bros. Compan C. F. Haglin & Son C Missouri Valley Constructors Inc. and Sollitt Construction Co., Inc., 1470 Nort western Bank Bldg., Minneapolis, Minneso
ELEVENTH NAVAL DISTRICT						
24639	San Diego, California	Rehabilitation of Facilities at Elliott Annex, Naval Training Center	4	1-17-51	1,050,000	Trepte Construction 2001 Kettner Blvd. San Diego, Californi
26620	Corona, California	Renovation and Rehabilitation of Building & Structures at U.S. Naval Hospital	7	5-1-51	2,430,000	H.M. Hodges - Pozzo Construction Co., 5531 Venice Bd., Los Angeles, Calif.
26623	Rear Field, California	Rehabilitation of Facilities, Naval Auxiliary Air Station	5	6-21-51	334,000	F. A. Young Construction Company, 2141 Main St.,P.O. Box 2872, San Diego 12, California
26500	Santa Ana, California	Rehabilitation of Outlying Field, Santa Ana	4	3-6-51	567,000	C. W. Karn & Stanton Reed Company, 3406 W Washington Blvd., Lo Angeles, California
THIRTEENTH NAVAL DISTRICT						
22725	Arlington, Washington	Construction of Radial Ground System, Communication Control Link Bldg., and Utilities at U.S. Naval Radio Station	5	8-16-51	1,292,750	Campbell-Atherton Co 1101 Terminal Sales Bldg., Seattle, Wash
POTOMAC RIVER NAVAL COMMAND						
22720	Arlington, Va. Anacostia, D.C.	Repair and Rehabilitation of Buildings and Structures at Naval Receiving Station and Quarters "A"	3	8-24-50	230,000	Rogers & McGrath Inc 1221 Kennilworth Ave N.E., Washington, D.
25016	Indian Head, Maryland	Construction of Chemical Process Plants for Manufacture of New Explosives Including Engineering and A & A Services	5	2-2-51	Engr. 96,250 A & A 173,057 Const 2,940,693 Total 3,210,000	Day and Zimmerman, In 1700 Sansom St. Philadelphia, Pa.
28846	Washington, D.C.	Rehabilitation of Bldg. 1 and other Structures, U.S. Naval Security Station	6	6-27-51	305,750	F. H. Martell Co., I 1023 20th St., N.W. Washington, D.C.

s. Company, n & Son Co., lley Con- ac. and struction 470 North- Bldg., Minnesota	1.92	68.72	24.48	1,116,339 160,800	8-21-51 8-23-51	"B" "C"	Completion of Certain Additional Facilitie Construction of certain additional Buildin
truction Co. Blvd. California	3.35	80	12.3	233,800 531,937 160,000	5-1-51 6-26-51 7-30-51	"A" "C" "D"	Procurement of operational equipment and be Miscellaneous additional items Miscellaneous additional items
- Pozzo Co., Rd., Calif.	2.88	9.1	23.9	None			
Con- mpany, .,P.O. n Diego ia	3.73	18	28	None			
Stanton , 3406 W. lvd., Los ifornia	3.50	93	13.1	None			
erton Co., l Sales le, Wash.	4.25	** 12	68.5	None			
rath Inc. orth Ave., gton, D.C.	3.98	*100	11.79	112,700 112,000 137,200	1-22-51 4-4-51 5-10-51	"C" "D" "F"	Rehabilitation of Certain Additional Build Alterations and Repairs to Part of Bldg. T Rehabilitation of Certain Additional Build
erman, Inc. St. , Pa.	3.08	77 23 3.4	4.1 2.5 47.2	312,000 6,083,700 6,395,700	6-14-51	"B"	Construct the Cast Base Propellant Product Line and A and A Services
l Co., Inc. .., N.W. D.C.	3.73	4	48.5	None			

* Contract Completed. Figures subject to adjustment upon receipt of Completion Report.

** Work started August 22, 1951. Figures from first report covering period ending 17 December 1951.

Revised 15 Feb 52

Shumaker, Arkansas	Construction and/or completion of Facilities at Naval Ammunition Depot	1	10-5-50	30,800,000	Winston Bros. Company, C. F. Haglin & Son Co., Missouri Valley Constructors Inc. and Sollitt Construction Co., Inc., 1470 Northwestern Bank Bldg., Minneapolis, Minnesota	1.92
DISTRICT						
San Diego, California	Rehabilitation of Facilities at Elliott Annex, Naval Training Center	4	1-17-51	1,050,000	Trepte Construction Co. 2001 Kettner Blvd. San Diego, California	3.35
Corona, California	Renovation and Rehabilitation of Building & Structures at U.S. Naval Hospital	7	6-1-51	2,430,000	H.M. Hodges - Pozzo Construction Co., 5531 Venice Rd., Los Angeles, Calif.	2.88
Mear Field, California	Rehabilitation of Facilities, Naval Auxiliary Air Station	5	6-21-51	334,000	F. E. Young Construction Company, 2141 Main St., P.O. Box 2872, San Diego 12, California	3.73
Santa Ana, California	Rehabilitation of Outlying Field, Santa Ana	4	3-6-51	567,000	C. W. Karn & Stanton Reed Company, 3406 W. Washington Blvd., Los Angeles, California	3.50
DISTRICT						
Arlington, Washington	Construction of Radial Ground System, Communication Control Link Bldg., and Utilities at U.S. Naval Radio Station	5	8-16-51	1,292,750	Campbell-Atherton Co., 1101 Terminal Sales Bldg., Seattle, Wash.	4.25
AL COMMAND						
Arlington, Va. Anacostia, D.C.	Repair and Rehabilitation of Buildings and Structures at Naval Receiving Station and Quarters "A"	3	8-24-50	230,000	Rogers & McGrath Inc. 1221 Kennilworth Ave., N.E., Washington, D.C.	3.98
Indian Head, Maryland	Construction of Chemical Process Plants for Manufacture of New Explosives Including Engineering and A & A Services	5	2-2-51	Engr. 96,250 A & A 173,057 Const 2,940,693 Total 3,210,000	Day and Zimmerman, Inc. 1700 Sansom St. Philadelphia, Pa.	3.08
Washington, D.C.	Rehabilitation of Bldg. 1 and other Structures, U.S. Naval Security Station	6	6-27-51	305,750	F. H. Martell Co., Inc. 1023 20th St., N.W. Washington, D.C.	3.73

* Contra
** Work

92	68.72	24.48	1,116,339	8-21-51	"B"	Completion of Certain Additional Facilities
			160,800	8-23-51	"C"	Construction of certain additional Buildings
35	80	12.3	233,800	5-1-51	"A"	Procurement of operational equipment and boilers
			531,937	6-26-51	"C"	Miscellaneous additional items
			180,000	7-30-51	"D"	Miscellaneous additional items
88	9.1	23.9	None			
73	18	28	None			
50	93	13.1	None			
25	** 12	68.5	None			
98	*100	11.79	112,700	1-22-51	"C"	Rehabilitation of Certain Additional Buildings
			112,000	4-4-51	"D"	Alterations and Repairs to Part of Bldg. T-21
			137,200	5-10-51	"F"	Rehabilitation of Certain Additional Buildings
08						
	77	4.1				
	23	2.5	312,000	6-14-51	"B"	Construct the Cast Base Propellant Production
	3.4	47.2	6,083,700			Line and A and E Services
			6,395,700			
73	4	48.5	None			

Revised 15 Feb 52

* Contract Completed. Figures subject to adjustment upon receipt of Completion Report.
** Work started August 22, 1951. Figures from first report covering period ending 17 December 1951.

- pt. 1 (Page p. 151)

DATA ON CONTRACTS LET AT ESTIMA

ON COST-PLUS-FIXED FEE BASIS BY BUREAU

NAVY FUNDS FOR MILITARY CONSTRUCT

FOURTEEN-MONTH PERIOD ENDED

NCy Number	5. Amt. of Contract or Estimated Cost of Work	6. Name & Addres of Contractor
RST NAVAL DIS		
22719	1,400,000	Gilbane Buildi Inc., 90 Calve Providence, R.
URTH NAVAL DI		
24191		
	629,100	Frank Grad & S
	Cost 855,000	and Burns & Mc
	Serv. 49,000	Inc., 167 Mark
	vices 580,100	St., Newark, N
IFTH NAVAL DIS		
24565	17,411,136	Consolidated -51 ing Co., Inc., 6-51 and Franklin S-51 Baltimore, Mar 0-51
26147	1,192,100	Doyle & Russell 1-51 823 West 21st Norfolk, Virgi
SIXTH NAVAL DIS		
24357	1,377,730	George D. Auch 3-51 P.O. Box 1193 Jacksonville,

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Mr. DONNELLY. The next exhibit we would like to put in the record is entitled, "Data on Contracts Let at Estimated Cost of $100,000 or More on Cost-Plus-Fixed-Fee Basis by the Bureau of Yards and Docks in Obligating Navy Funds for Military Construction for the Zone of the Interior."

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CIRCUMSTANCES UNDER WHICH NAVY USES (1) COMPETITIVE BID, (2) NEGOTIATED, AND (3) COST-PLUS-FIXED-FEE CONTRACTS

Mr. DAVIS. Suppose we ask the admiral to outline the circumstances under which a cost-plus-fee contract is used by the Navy.

Mr. DONNELLY. By way of background for that, I should like to read a colloquy in the hearings on the first supplemental for 1951

on this point. It is headed, at page 397 of the Defense hearings, "Type of construction contracts." Question by Chairman Mahon:

How are you going to arrange the actual construction of these projects, Admiral Jelley? Let us have that clearly and fully set forth.

Admiral JELLEY. Our present intentions, based on conditions as they are today, are that we will do all the continental work on a competitive-bid basis after engaging architects and engineers to prepare plans and specifications.

On three or four of the fifty-odd projects, we will do the engineering with our own forces.

Outside the continental United States we expect to do it all under fee contracts with the exception of the work in Honolulu itself, where we can get competition. The work at Kwajalein and the work on classified project will be under fee contract.

Admiral, there are three types of contract which the Navy has used, namely, competitive bid after advertising; the second is the negotiated contract with the contractor for a lump sum; the third is the cost-plus-fixed-fee contract. Is that not correct, sir?

Admiral JELLEY. That is correct.

Mr. DONNELLY. Would you like to outline for the committee the merits of each of those and the circumstances in which each are employed?

Admiral JELLEY. Let me first talk about work outside the continental limits so I can get that over with first.

In general, when we go into a remote area where shipping is irregular, where it is necessary to recruit personnel, the work usually has to be done on a fixed-fee basis because of the great risk the contractor would be called to assume. He would load his bid up with contingency estimates. Most of our work started off in these overseas locations on a cost-plus-fixed-fee basis. However, we have found some overseas locations where we can take bids and do our work on a lump-sum basis. At present, we have two cost-plus-fixed-fee contracts in the Atlantic area, and off the record——

(Discussion off the record.)

Admiral JELLEY. Also, in the Atlantic area, we are doing work on a competitive bid basis in Argentia, Newfoundland, Guantanamo Bay, Cuba, and work for the Air Force in the Bahamas.

In the Pacific, we have two active fixed-fee construction contracts. One contract has been under way for some years on Guam. It has reached rather large proportions. I believe in the neighborhood of $200,000,000 (actually $195,870,000), which includes about $30,000,000 from '52 funds, with approximately $22,000,000 to be added for other work. On this particular contract, we felt that the scope of it had changed so radically that the original contractor should bring in new blood to give us a larger combination. As a result, we conducted negotiations during the past few months and have brought two new contractors into the Guam joint venture. There are now five contractors participating in that work. We also have a cost-plus-fixed-fee contract for work at Kwajalein, some very minor work in the Philippines, and some urgent work in Honolulu.

I noticed that I had told Congressman Mahon that we would use competitive-bid procedures in Honolulu. However, we found that this particular cost-plus-fixed-fee contractor in the Middle Pacific included the three largest Honolulu contractors. It is a joint venture of five contractors, three of whom are the three largest Honolulu contractors. When the urgent project at Kanoehe came up which amounted to some $4 million, we found there was not sufficient com-

petition among the remaining contractors in Honolulu to do the job. So we added to that the cost-plus-fixed-fee contract.

In addition, we are doing lump-sum work in Kodiak, Alaska; in Japan, with Japanese contractors; and some in the Philippines. We have run into difficulty in the Philippines with the local contractors because of exchange difficulties, necessity of bringing in materials from the States, and so on. This is the reason we had to go to out cost-plus-fixed-fee contract in Kwajalein to do $5 million worth of work, at Sangley Point and Subic Bay. It was a relatively small amount but it was beyond the capabilities of the local contractors. There I was influenced mostly by the fact that both of these CPFF contractors had had to build up purchasing organizations in San Francisco, purchasing material and recruiting labor and so on. I felt it would be uneconomical to take this small Philippine job and set up a duplicating organization in San Francisco. So we added to the smaller of the two contracts. We have had a cost-plus-fixed-fee contract at Adak in the Aleutians. However, we closed out the field work on that last month and the paper work is being wound up now. Some work in the Aleutians is in prospect for the account of the Air Force, but it will be on a competitive bid basis. That covers the overseas portion.

Now, continentally——

Mr. DONNELLY. This chart that we have is limited to the continental United States—that is the curve chart.

Admiral JELLEY. Continentally, we have had a number of contracts for repair and rehabilitation of inactive stations. These have been financed from annual funds and my statement to Congressman Mahon did not really apply to this type of contract because we were talking about first supplemental public works funds at the time.

Going down this list, we have rehabilitation of buildings at Newport, rehabilitation of buildings at Bainbridge, repairs and additions to miscellaneous structures at Little Creek, Va., which is another rehabilitation. Rehabilitation at Jacksonville and San Diego. Renovation and rehabilitation of building and structures at United States Naval Hospital, Corona, Calif.; rehabilitation of facilities at Ream Field, Calif.; rehabilitation at Anacostia; rehabilitation of building at United States Naval Security Station, the one out here on Nebraska Avenue in Washington.

Now, in addition, this list also shows an architectural and engineering cost-plus-fixed-fee contract; all the rest are construction contracts.

This architectural contract was for the work at Trenton, N. J., the design and development of the aeronautical jet turbine testing laboratory. We could not do this on a fixed-fee basis because of the indefinite scope, the unknown problems that would be encountered; and we had to go to a cost-plus-fixed-fee basis on that. But they are the exception rather than the rule.

We had a contract for the construction and completion of the facilities at Naval Ammunition Depot at Shumaker. I would like to go into that contract in a little detail. It represented a new departure for us. There we had the problem of finishing up incompleted structures from World War II at the cost of some $15 million. In addition, we had the construction of new facilities at that station, magazines, store houses, and other accessory structures at a cost of $15 million.

We called back the original cost-plus-fixed-fee contractor who had done a good job in World War II, who still had his records, who still had his key personnel and said, "We want you to finish the uncompleted work. As for the new work, you are to do that on a subcontract basis after taking competitive bids." In that way, we limited the cost-plus-fixed-fee operations to that work which was impossible to specify in advance. The other work that could be specified and the drawings could be prepared, we accomplished by taking bids.

Now, it was done on a subcontract basis but the officer in charge of construction sat in on all the awards of contract and made sure that regular Government procedure was followed; that the work was widely advertised and the bids handled in accordance with Government practices. I think that was a good way to handle it. The major contractor was able to schedule the work of these lump-sum contractors. We were able to save some time in that he went ahead and put up a central mixing plant and furnished concrete at an agreed price to the subcontractors. He went ahead and purchased various steel reinforcing, steel door frames for magazines in advance, which took a lot of the risk away from the competitive lump-sum bid. I think that was a very economical and rather unusual use of a cost-plus-fixed-fee contract.

Mr. DONNELLY. Admiral, since you have spent some time explaining Shumaker, I have some documents which the committee might be interested in seeing on Shumaker.

Admiral JELLEY. Why don't we finish these two up and then go back to Shumaker? Another contract is for the construction of a ground system, communication control link building, and utilities at the Naval Radio Station, Arlington, Wash., $1,292,000. That job is being done back in the mountains in the State of Washington. We had the specifications written out but conditions in the area made it almost impossible for contractors to estimate the quantity of excavation and rock they would have to make to install this ground system. After a debate of about a month between the officer in charge in Seattle and the Bureau, we reluctantly agreed with them that the only way to do it was on a cost-plus-fixed-fee basis.

Mr. DONNELLY. On that one now, Admiral, was it cost-plus-fixed-fee price with unit prices set up for the categories of work?

Mr. KATZ. If there were unit prices, that would not be cost-plus-fixed-fee.

Admiral JELLEY. That is right.

Mr. DONNELLY. I see.

Admiral JELLEY. Finally, at Indian Head, we had a cost-plus-fixed-fee contract for the construction of a chemical process plant for the manufacture of new explosives. This involved taking a lot of equipment that had been picked up in Germany, rehabilitating it, working it into a powder-manufacturing process, plus designing and buying new equipment to supplement it. It just could not be worked out and designed in advance. We gave that contract to a firm who is accustomed to do both design and construction. That firm is going to do both the design work and the construction work.

Mr. DONNELLY. Does that complete your discussion of the cost-plus-fixed fee?

Admiral JELLEY. Yes.

ADMINISTRATION OF COST-PLUS-FIXED-FEE CONTRACT FOR NAVAL ROCKET DEPOT AT SHUMAKER, ARK.

Mr. DONNELLY. Admiral, in cost-plus-fixed-fee contracts we actually have three separate components, as I understand. One is the construction cost, that is, the labor and materials that go into the job; the second is the administrative overhead and the third is the fee paid to the contractor; is that correct?

Admiral JELLEY. Yes, sir.

Mr. DONNELLY. Now, taking Shumaker as an example, we have here some data with respect to the administrative overhead item of expense. I would like to insert in the record at this point this memorandum which describes the contractor's force on the job at Shumaker. This data was furnished by the officer in charge of construction for the Shumaker job.

(The document referred to is as follows:)

Contract NOy–23197, Shumaker (Camden), Ark., monthly average figures [1]

	Nonmanual	Manual	Total	Percent, nonmanual to manual	Percent, nonmanual to total employees
1950—October	33	58	91	56.9	36.3
November	132	305	437	43.2	30.2
December	386	1,356	1,742	28.5	22.2
1951—January	398	1,401	1,799	28.4	22.1
February	433	2,062	2,495	21.0	17.4
March	441	2,339	2,780	18.9	15.9
April	387	2,420	2,807	16.0	13.8
May	404	2,346	2,750	17.2	14.7
June	365	1,902	2,267	19.2	16.1
July	325	1,703	2,028	19.1	16.0
August	300	1,730	2,030	17.3	14.8
September	274	1,643	1,917	16.7	14.3
October	268	1,525	1,793	17.6	14.9
November	240	1,139	1,379	21.1	17.4
December	151	351	502	43.0	30.1
1952—January	82	8	90	1,025.0	91.1
February (1 week)	45	8	53	563.0	84.9

[1] Furnished by Bureau of Yards and Docks.

Mr. DONNELLY. Admiral, with respect to the cost-plus-fixed-fee contract at Shumaker, we understand the cost of that to be estimated at $34,600,000. Could you give the committee a statement with respect to the matter of overtime? That is, the extent to which overtime is permitted by the Navy officer in charge?

Admiral JELLEY. At Shumaker, the job has been on a 48-hour week practically since its inception. That was decided upon when the job started up after consultation between the contractor, the officer in charge locally, and the Bureau. It was felt that it was necessary to go to a 48-hour week to attract the workmen who would have to come from an area of up to 150 miles from Camden.

Mr. DONNELLY. We had detected this problem—not with respect to the Navy but with respect to the other services—that labor will work Saturday and Sunday at time and a half or double time, an unusually large amount of hours, maybe 10 or 12 hours a day, and then lay off on Monday and perhaps Tuesday. Do you have this problem at Shumaker or any of these other cost-plus-fixed-fee contracts?

Admiral JELLEY. I have not heard of it. During the last war we were on long workweeks and that was one thing that the Navy inspectors and the contractors' key personnel looked out for. When they saw a man working every Saturday and Sunday but not working on Mondays or Mondays and Tuesdays, he would be discharged. We caught on to that very quickly back in 1942 and took steps to keep it within bounds. I have not heard of it coming up within the last year at any place.

Mr. DONNELLY. Now, with respect to the organization of the officer in charge of construction at Shumaker, we have a memorandum also from the files of the officer in charge of construction dealing with that subject which I would like to put in the record at this point.

(The memorandums are as follows:)

Subject: Civil service organization of the OinCC

1. The civil service organization of the officer in charge of construction, in accordance with all of the requirements of the United States Civil Service Commission, was established by the Bureau of Yards and Docks in the Navy Department Industrial Relations Office prior to the actual undertaking of construction operations as Shumaker in September 1950, with an authorized personnel ceiling of 96. The present actual work force numbers 80.

2. This organization is made up of auditors, contract administrators, and industrial-relations specialists, general engineers, and civil, structural, mechanical, and electrical engineering specialists, construction inspectors, and equipment specialists, together with the requisite clerical force.

3. The purpose of the civil service organization is the exercising of administrative control over all cost-plus-a-fixed-fee operations and related fixed price subcontract operations wherever the Government's interest is involved. The cumulative cost of maintaining this civil service administrative force is 1.6 percent of the total expenditures to date allotted under the contracts.

4. Many key personnel in this organization were recruited from various areas in the United States and its possessions on the basis of their experience in the administration of cost-plus-a-fixed-fee contract work. The organization is temporary in nature and will be disbanded upon completion of the work under the several types of contracts.

5. All documentary evidence of the foregoing statements is available in the officer in charge of construction central files for the perusal of authorized personnel.

STAFF NOTE.—This memorandum, prepared by the OinCC's office, describes the Navy's civilian supervising staff at Shumaker Naval Rocket Depot, a cost-plus-fixed-fee contract project estimated to cost $34,600,000.

PERFORMANCE OF WORK

1. *Contractor's force.*—For administration and accomplishment of all the work done directly under the CPFF prime contractor as well as supervision of lumpsum subcontracts, the prime contractor's force has varied from the peak of around 2,950 to a present total of approximately 2,100 employees. These totals include both manual field workers as well as nonmanual supervisory personnel. Responsibility for management is vested in a project manager supported at the administrative level by department heads individually responsible for procurement, field construction, and accounting. In addition to all the employees on the contractor's payroll, the construction program has enjoyed the services (on a nonreimbursable basis) of a resident representative of the 4 principal contractors making up the joint venture.

2. *Navy's force.*—To administer, audit, and control the contractor's operations, the Navy force under the officer in charge of construction has averaged 75 employees since complete mobilization. The work under the OinCC has been divided into 4 divisions, namely, auditing, administrative and labor relations, technical, and construction. The auditing division is responsible for reviewing procurement and accounting practices employed by the contractors in order to be certain that the contractor functions in accordance with BuDocks for manual accounting, audit and control of CPFF contracts. The administrative and labor relations division handles all matters pertaining to public relations, personnel problems, and the establishment of proper labor rates.

* * * * * * *

5. *Saturday and Sunday work.*—With the exception of a short period during the early stages of mobilization, all field and office work under the contract have been on a 6-day workweek of 48 hours, Monday through Saturday. Only certain trades on lump-sum subcontracts and a minimum number of employees under the prime contract necessary for maintenance and security have been employed on Sunday work.

STAFF NOTE.—This data was furnished by the OinCC's office.

COMPARISON OF OVERHEAD ON VARIOUS COST-PLUS-FIXED-FEE CONTRACTS

Mr. DONNELLY. Now, to give the committee a basis of comparison of the administrative overhead costs on various cost-plus-fixed-fee contracts, we have prepared several charts, not charts, but statements which show the ratio between nonmanual employees, to manual employees for Shumaker, for Bainbridge, for Little Creek, and for the naval air station at Jacksonville, and the ratios will vary from job to job. The first one, which the committee is now examining, is for Shumaker itself (printed above).

I would like to invite the attention of the members of the committee to the fact that the ratio fluctuates, which is a natural and normal thing as I have understood from the Navy, that at the outset of a job and end of the job the ratio will be higher than in the middle of the job when there is a great number of manual employees on the job actually doing the work.

Now, the ratio at Shumaker is considerably higher than the ratio at Bainbridge and the committee members were discussing the desirability of commendation for engineer officers who had done a superior job in performance. At Bainbridge, we had a job where the amount paid out was over $15 million, and the overhead paid was less than $9,000 out of the $15 million, and the ratio of manual employees to nonmanual employees was considerably lower than that for Shumaker. The officer who is largely responsible for the performance at Bainbridge is here today, Captain Ventres.

Captain VENTRES. Mr. Donnelly, may I make a correction there? I think when you said the overhead paid was less than $9,000, you meant the overtime.

Mr. DONNELLY. The overtime. The chairman asked about overtime.

Mr. FURCOLO. Fine.

Mr. DONNELLY. The committee members will see at Bainbridge how early in the job this matter of administrative overhead was brought under control.

(The memorandum on overhead at Bainbridge is as follows:)

Contract NOy–24565, Bainbridge, Md., monthly average figures [1]

	Number of administrative employees	Number of field employees	Total employees	Percent administrative to field employees	Percent administrative to total employees
1951:					
January	67	340	407	19.7	16.5
February	141	1,221	1,362	11.5	10.4
March	169	1,999	2,168	8.5	7.8
April	163	2,373	2,536	6.9	6.4
May	161	2,363	2,524	6.8	6.4
June	169	2,262	2,431	7.5	7.0
July	170	2,505	2,675	6.8	6.4
August	168	2,541	2,709	6.6	6.2
September	145	2,198	2,343	6.6	6.2
October	130	1,869	1,999	7.0	6.5
November	118	1,482	1,600	8.0	7.4
December	101	976	1,077	10.3	9.4
1952: January	70	398	468	17.6	15.0

[1] Furnished by Bureau of Yards and Docks.

NOTE.—Field employees and manual employees are synonynous; and administraitve employees and nonmanual employees are synonymous.

Mr. DAVIS. Let us clear one thing up. Roughly speaking, are field employees and manual employees synonymous, and are nonmanual employees and administrative employees synonymous?

Mr. RILEY. Would nonmanual and manual be the same difference as between technical and nontechnical?

Mr. DAVIS. These tables vary in that respect. In one case, it is manual and nonmanual and in the other, administrative and field.

Captain VENTRES. Field employees and manual employees have the same connotation here.

Mr. DAVIS. These tables are comparative.

REHABILITATION WORK DONE ON COST-PLUS-FIXED-FEE CONTRACT AT BAINBRIDGE, MD.

Mr. DONNELLY. As a good example of the operation of a cost-plus-fixed-fee contract for rehabilitation, I have here a chronological account of the development of the rehabilitation at Bainbridge. It is rather lengthy but I think it would give an example of excellent performance by the Bureau. I wonder if we could put that in the appendix to the record.

Mr. RILEY. That may be done.

(NOTE.—The Bainbridge summary is printed in the appendix at p. 322.)

Captain VENTRES. Mr. Donnelly called attention to the fact that the overhead at Bainbridge dropped very rapidly and said that the resident officer in charge was present. I want to give due credit to the first resident officer in charge who afterward became my assistant up there and who in turn succeeded me as resident officer in charge, Commander Daday. I did not go there until the 25th of April; and, if you will note in that tabulation, the ratio of nonmanual to manual was brought down very shortly after the inception of the job.

Mr. DONNELLY. I think I said "largely responsible." I did not want to exclude anyone.

Captain VENTRES. I wanted to give him due credit for that, Mr. Chairman.

Mr. RILEY. I think that is very generous of you, Captain.

We will recess and come back at 2 o'clock rather than start a new inquiry at this time.

AFTERNOON SESSION

Mr. RILEY. Mr. Reporter, in view of the fact that Friday, February 22, is Washington's Birthday, and a holiday is granted to the civilian employees and many of the service members on that date, this committee will work through tomorrow, the 21st, and reconvene on Monday, the 25th, at 10 o'clock.

REASON FOR SELECTING COST-PLUS-FIXED-FEE CONTRACT FOR REHABILITATION AT BAINBRIDGE

Without objection, this chronological account of the reactivation of the Naval Training College at Bainbridge, Md., will be inserted in the appendix of the record.

(NOTE.—It is printed in the appendix at p. 322.)

Mr. DONNELLY. Admiral, the purpose of obtaining from the Bureau this chronological account of the development of the cost-plus-fixed-fee contract at Bainbridge was to understand why that particular type of contract was selected for the Bainbridge rehabilitation as against the negotiated contract or a competitive-bid contract, and the chronological account does indicate the reasons followed by the Bureau in selecting the cost-plus-fixed-fee contract. Would you want to comment on the choice of that particular type of contract for Bainbridge?

Admiral JELLEY. I do not think this summary gives the compelling reason. I notice it just states, "Decision finally made on December 9 to accomplish rehabilitation." I think it would clarify things if I told you why I made that decision.

This was one project fairly close to Washington, and it was a large project. It had been recommended by the field to be done on a cost-plus-fixed-fee basis. So, I took it upon myself, with three of the other senior officers in the Bureau, to drive up to Bainbridge one Saturday during the fall so we could see just what shape Bainbridge was in, what amount of work had to be done, and what could be accomplished on a bid basis. At that time, the requirement of BuPers was, as I recall, that 5,000 men had to be accommodated on July 1, and 10,000 on December 31. Since it was then about the 1st of November, that gave us plenty of time to accomplish the work required. I came back from that trip convinced that if we had time we could do it on a competitive basis except for the plumbing work. I felt the plumbing work had to be done on a fee basis because of the unknown condition of the piping.

Mr. DONNELLY. Would there have been any advantage to the Navy in principle if it had been possible to use a competitive-bid contract?

Admiral JELLEY. It would have been much, much harder to administer from the Navy's point of view. It would have been a difficult procedure to do on a lump-sum basis. The officer in charge of construction would have had to have many more employees to supervise the large number of contracts that would have been required. I estimated that there would be at least 30 contracts covering individual parts of the work.

Mr. DONNELLY. Those are the disadvantages of competitive-bid contract. But, when you made your week-end trip to Bainbridge and you debated in your own mind the pros and cons of the competitive bid as against the cost plus fixed fee, what advantage, if any, did you see for competitive-bid contract?

Admiral JELLEY. The only advantage I saw and considered was the fact that we would know at the inception of the work or close to the inception of the work what the total job was going to cost.

As a result of that visit, I instructed the Bureau to interview architect-engineers leading to the selection of one of them. The interviews were completed, but on December 9 I changed my mind. That was when the Chinese entered the Korean war. I felt that BuPers could not hold to their original requirements of 5,000 men on July 1, the remainder on December 31, even though at that time they did not feel they needed the men; that more men would have to come in the Navy. If we had been out on a lump-sum basis with 6 months to do this job, 12 months to do that job, and then had to go to the lump-sum contractor to make him speed up his work, we would have had to pay him premiums to do it. It would have been very difficult and it would have resulted in a large number of negotiations with a large number of lump-sum contractors. So, on December 9, I came to the decision it would have to be on a cost-plus-fixed-fee basis. We discontinued negotiations with architect-engineers, instead we started negotiating with contractors to do the work. As soon as the money was made available which was annual BuPers money, we gave the selected contractor the notice to proceed.

As it turned out, my decision was a wise one because the first men arrived in Bainbridge about the middle of March.

Captain VENTRES. The end of March or right around April 1.

Admiral JELLEY. Arrived about April 1, instead of July 1, and by July 1, they had 10,000 men there.

Captain VENTRES. I believe that was the figure on July 1, 10,000 men.

Admiral JELLEY. So, in hindsight, that was one time I guessed right.

Mr. DONNELLY. There, time was the motivating factor in deciding upon the cost-plus-fixed-fee contract?

Admiral JELLEY. It was.

Mr. DONNELLY. From the standpoint of cost, could you give us an opinion at this time if money would have been saved if time had permitted advertising on a competitive bid contract or contracts?

Admiral JELLEY. No; I could not, Mr. Donnelly, because, as it turned out, we did the work on a cost-plus-fixed-fee basis, on a different basis than we intended on a lump-sum basis. When the project was finally authorized, Admiral Sherman personally said that he wanted Bainbridge put back into its original condition, with no improvements made. On a lump-sum basis, I had considered we would have to sand every floor and refinish every floor. We would have to replace whole sections of roof. As it was actually done, very few floors were resanded, some floors had rotted of which portions had to be replaced. Whole roofs were not replaced in every instance. Patches were put on. So that the cost-plus-fixed-fee contractor actually did less work than I had been contemplating under a lump-sum process. It would be most difficult under a lump-sum

process to have specified roof patching or which floors should just be cleaned up and which floors should be refinished and so forth. I figured on a complete rehabilitation which could be easily specified.

Mr. DONNELLY. With time as one factor motivating the adoption of the cost-plus-fixed-fee, there is a second factor and that is the type of job—namely, rehabilitation—is there not?

Admiral JELLEY. Yes, in general CPFF contracts are suitable for work that is very difficult to write specifications for. In rehabilitation work, it is most difficult to write specifications.

NAVY'S PRELIMINARY COST ESTIMATES FOR REHABILITATION AT BAINBRIDGE

Mr. DONNELLY. Now, Admiral, we have in this write-up on Bainbridge total for construction, $18,431,240. And the date, I see there, is October 25, 1951. That, I take it, as we look at it now, is a hindsight proposition, but let's look at the first page and we find that on September 19, 1950, the Bureau of Naval Personnel requested the Fifth Naval District to prepare an estimate for complete rehabilitation of the center. Then we look at the next entry, October 20, 1950. Your Bureau estimated for rehabilitation, $15,202,000. And then the next entry we have the Fifth Naval District making what appears to be a similar cost estimate and that is so much lower, $9,105,726. Would you care to comment on the difference between the three figures that I have mentioned?

Admiral JELLEY. There were more estimates than that, Mr. Donnelly. I remember a $13,000,000 estimate. I believe the Bureau's preliminary estimate was $12,000,000, and they were told to recheck that and they came up with a $10,000,000 estimate. I believe there was also a $8,000,000 estimate that came out of the Bureau of Personnel which was more or less dictated by the amount of money they thought they could make available.

Mr. DONNELLY. You will find those figures, I believe, Admiral, on page 2. In December 1950 we see $11,578,000 and apparently that was for appropriation purposes, wasn't it, sir? The other figure you mention is at the bottom of page, under date of March 12, 1951, $7,761,400.

Admiral JELLEY. I think the variations in estimates made by different people indicate why it had to be done on a cost-plus-fixed-fee basis. You could walk into the barracks but you could not see the inside of the water lines. You could not see conditions under the floor and I think that we were just lucky to hit the estimate so close.

Captain VENTRES. $16,666,000, I believe, was the final estimate made by the contractors after they were on the site and went into more detail.

Admiral JELLEY. I know there were things discovered, rotted roof timbers, rotted floor timbers that were not included in the original estimates.

Captain VENTRES. It was the type of a job that could not be estimated by surface examination. The extent of deterioration in the timber structures and in the timbers did not appear on the surface. It was only after they got into the work and ripped up a section of floor that was bad that they would find that something else had gone

on progressively and frankly, I could not see any way that an accurate estimate could be made.

Admiral JELLEY. As a matter of fact, the estimate on which we placed most reliance was that $15,000,000 estimate. It was made by a group of three of our civilian employees who went to Bainbridge from the Bureau and spent about 4 days. Then, as a result of going through dozens of the buildings, they hit on an average cost per this type of building, average cost of that type of building, broken down into electrical, carpentry, painting, and so forth, multiplied it by the number of buildings and that was the estimate.

Mr. DONNELLY. This is strictly as to cost feasibility of cost-plus-fixed-fee contracts for rehabilitation.

Admiral JELLEY. It is.

COST-PLUS-FIXED-FEE CONTRACTS NOT JUSTIFIED FOR NEW CONSTRUCTION

Mr. DONNELLY. Let's take a contract where the contractor is on the job and doing rehabilitation work, and then a change order is issued to construct an entirely new building that has no relationship whatever to rehabilitation, wouldn't it be more economical to have advertised that type of additional building than to issue a cost-plus-fixed-fee change order for half a million dollars?

Admiral JELLEY. I take it you are referring to the contract at Jacksonville where we added an aircraft maintenance shop to a rehabilitation, cost-plus-fixed-fee contract.

Mr. DONNELLY. That is correct.

Admiral JELLEY. In general, it is most difficult to tell what the final cost is going to be when you start a project under a cost-plus-fixed-fee contract. In my experience during the war, I found this: If you started a contractor off on partial plans, if you gave him footing plans, for example, before the plans for the steel frame or the rest of the building were completed and got him started to work, he went ahead piecemeal, did the work on the footings and then said, "where are some more plans?" In those circumstances we were liable to have considerable overruns in estimated costs. However, in a number of cases, where we had complete plans and specifications for an individual building or an individual project and could give them to the cost-plus-fee contractor, we could say, "now estimate what the cost of this is." We could then revise the plans and reduce his estimate to the funds available. He hit those estimates pretty closely because each one of his foremen had a figure to work against. He knew what the work was supposed to cost. I had very good luck on that type of work on a cost-plus-fixed-fee basis. The costs were comparable to lump-sum prices. If it is a case where you work piecemeal on incomplete plans, it is anybody's guess whether you will hit it on the nose or come out 20 percent over.

In the case of Jacksonville, which I certainly consider to be an exception, last March 7 the district public works officer of the Sixth Naval District, recommended to us that we add this building to the existing cost-plus-fixed-fee contract. He based his recommendation on two reasons, really three reasons: First, the contractor concerned had built a large part of the original station during World War II.

Second, in connection with the rehabilitation work which was then under way, he performed very effectively and economically. Third, that this shop was badly needed for the overhaul—I believe it was of jet engines—and that if he waited until complete plans and specifications were finished for performance of the work under lump-sum contract, that there would be a delay until at least May 21. As a result of that, and as I recall it, I discussed the matter on the phone with Captain Eckberg to satisfy myself with the validity of his arguments; we authorized the addition of that building to his contract. The order for the steel was immediately placed. It was a steel frame building and by getting our order in in March instead of in May, we saved considerable time. I recently inquired as to whether we had actually saved time in the over-all time of construction of the building and I was informed by Captain Eckberg that we had saved at least 3 months by the addition to the CPFF contract. Whether we saved any money or not, I cannot tell you.

Mr. DONNELLY. That Jacksonville aircraft maintenance building was a departure from the policy of competitive bidding for new construction, was it not, Admiral?

Admiral JELLEY. Not only a departure but I think the only one like it last year.

Mr. KATZ. Only one I can think of, offhand.

Mr. DONNELLY. The Jacksonville contract is shown on this chart which each member has. This is the chart for cost-plus-fixed-fee contracts. Looking down to the Sixth Naval District, we find Jacksonville, Fla., and in column 9 there is a change order of $500,000 dated July 23, 1951, for that particular building. That, I understand, was increased to $712,000 from $500,000.

Admiral JELLEY. That is correct. The total cost of the building is $712,000. The total allotment.

Mr. DONNELLY. You feel that with respect to that building, with the departure from the policy of competitive bid contract was justified?

Admiral JELLEY. At that time. I would not do it today. But March, a year ago when we still had quite a bit of urgency on account of the situation in Korea, I felt it justified. As of today, I would not feel justified in making that addition.

Mr. DONNELLY. Well, the competitive bid contract, from the standpoint of policy, is the best of the three types of contract for your construction work, isn't it?

Admiral JELLEY. Under normal conditions there is no doubt about it.

Mr. DONNELLY. Rather than encumber the record at this point with the details of the Jacksonville aircraft-maintenance building, Mr. Chairman, I would like to insert in the record, in the appendix, the memoranda that describe that change order, a description of the building itself, and the explanation by the Sixth Naval District of the reason for the use of that change order which is in harmony with the admiral's own testimony here.

Mr. RILEY. Without objection, it will be inserted in the appendix to the record.

(NOTE.—The documents relating to the Jacksonville change order are printed in the appendix at p. 325.)

SOME FLEXIBILITY IN CONTRACTING PROCEDURES IS DESIRABLE

Admiral JELLEY. I might say there are quite a few different procedures that can be used. For example, just recently, in connection with another building for which some urgency was shown, we decided to award the foundation, the steel superstructure, and the complete building separately. That let us get ready with the pile foundations which was quite an expensive matter and let us order steel for superstructure but still gave us time to draw plans and specifications for the building. Splitting the work into three separate bid contracts is done sometimes. It is more trouble for the officer in charge to synchronize the work and so forth, but it is a way of saving maybe a month or two in the over-all completion.

Mr. KATZ. Look what we did at Norman, Okla.; we had $2½ million worth of work that we had to get completed in a hurry. We chopped off $250,000 to negotiate, while we prepared the plans for the remaining $2,250,000 so we will be able to bid that.

Admiral JELLEY. Only two negotiated lump-sum contracts were used.

Mr. KATZ. They added up to about $250,000. And we will bid the rest of it.

Admiral JELLEY. Each individual case rates an individual solution.

NAVY COMPLETES PLANS AND SPECIFICATIONS BEFORE INVITING BIDS

Mr. DONNELLY. Now, Admiral, in a competitive bid contract, it is requisite that the plans and specifications be drawn and submitted to the potential contractors with the invitation to bid.

Admiral JELLEY. Yes.

Mr. DONNELLY. Now, in our own study of the three services, Navy, Army, and Air Force, we have found that in many cases the other two services had not had complete plans and specifications at the time that they invited bids so that contractors actually did not know what they were bidding on. Nonetheless bids were received in which the contractors put high contingencies, and contracts were awarded on that basis.

Admiral JELLEY. I do not see how you could do that. I do not see how a contractor could give you a price. On incomplete——

Mr. KATZ. We could give a description of the building—so many feet by so many feet and the number of stories—but any contractor who bid on that would have to load it with a very substantial contingency allowance. He could bid, but——

Admiral JELLEY. Take a standard plan like we had on the table the other day. We could tell a contractor, "We want to build 100 buildings like that and put them here on this plot of ground." I can see how he could give you a fair bid on that, but to just say, "a stone building 100 by 100, one story high"—it could not be bid without more details.

Mr. DONNELLY. With respect to the Navy, from our study we have sought to ascertain whether the Navy completed the drawing of plans and specifications before inviting bids. We find, as a general rule and almost universally, that has been true.

Admiral JELLEY. I do not know of any case where we have not had complete plans and specifications. We have sent out preliminary plans to ascertain whether contractors would be interested, purely as

information to let them decide whether they were in position to give us a bid on a job like that, but before they gave us a bid—I do not see how you could operate without definite plans, Mr. Donnelly. The arguments that would arise between the contractor and officer in charge of construction would be endless. I could negotiate a contract like that, but I do not see how you could do it under competitive bids.

Mr. DONNELLY. That is why I asked the question. The committee is getting a distinction between three types of contract. In cost-plus-fixed-fee you don't have your plans and specifications in advance.

Mr. KATZ. We sometimes use a performance specification where we tell the contractor we want him to meet certain indicated requirements and ask him to submit plans and specifications in connection therewith. Do they do that on the kind of job you are talking about?

Mr. DONNELLY. There have been invitations for construction as distinguished from procurement where contractors were invited to draw their own alternate plans and specifications on a general outline of the scope and nature of the work, but as I understand the Navy do s not do that.

Admiral JELLEY. I was going to say, Lustron Housing was the——

Mr. KATZ. We had complete plans and specifications there.

Mr. POTBURY. They were complete.

Admiral JELLEY. There were alternates in that case.

Mr. KATZ. No; there were no alternates.

Admiral JELLEY. Sometimes you get a contractor like Austin Co., who does the whole job of design and construction. I do not see how you could do it on a bid basis. You must have some kind of negotiation to tie yourself down to something definite.

Mr. DONNELLY. Now, that gives us a basic approach to the next type of contract, the negotiated contract, which the Navy has used to some extent.

FURTHER COMPARISON OF ADMINISTRATIVE OVERHEAD ON CPFF CONTRACTS

Since I have some further data on cost-plus-fixed-fee, I wonder if I could put it in the record at this point, on two other jobs, to give a further basis of comparison.

This is still on cost-plus-fixed-fee and this gives another idea of the ratio on cost-plus-fixed-fee contract of manual to nonmanual employees. This is at Little Creek, Va.

(The document referred to is as follows:)

Contract NOy–26147—Little Creek, Va., monthly average figure [1]

	Non-manual	Manual	Total	Percent non-manual to manual	Percent non-manual to total employees
1951—March	17	53	70	32.1	24.3
April	39	83	122	47.0	32.0
May	36	215	251	16.7	14.3
June	37	311	348	11.9	10.6
July	41	285	326	14.4	12.6
August	41	300	341	13.7	12.0
September	36	339	375	10.6	9.6
October	35	338	373	10.4	9.4
November	31	228	259	13.6	12.0
December	23	100	123	23.0	18.7
1952—January	22	77	99	28.6	22.2

[1] Furnished by Bureau of Yards and Docks.

Mr. DONNELLY. And to complete our comparison, I have a fourth one for Jacksonville, Fla., so that now we have Shumaker, Bainbridge, Little Creek, and Jacksonville.

(The document referred to is as follows:)

NOy–24357—Naval Air Station, Jacksonville, Fla., contract data per House committee request of Sept. 10, 1951—Employees, by months, CPFF contract

Period ended—	Employees			Percent nonmanual to manual
	Manual	Nonmanual	Total	
(A)	(B)	(C)		(D)
1951—January 27	395	21	416	5.32
February 24	589	22	611	3.74
March 31	623	23	646	3.69
April 27	463	24	487	5.18
May 25	307	16	323	5.21
June 30	75	13	88	17.33
July 28	66	10	76	15.15
August 25	50	8	58	16.00
	2,568	137	2,705	5.33

Source: Sixth Naval District, Charleston, S. C.

SIGNIFICANCE OF COMPARING NONMANUAL TO MANUAL EMPLOYEES AS A CHECK ON OVERHEAD

Mr. DONNELLY. Admiral, how can it be accounted for that the ratio of administrative overhead is so much less for one, namely, Bainbridge, than for some of the others?

Admiral JELLEY. Mr. Donnelly, I would first like to say that I think you have hit on something valuable in comparing nonmanual to manual employees, white-collar employees to mechanics. During the last war when I was actively engaged as an officer in charge of cost-plus-fixed-fee contracts, overhead was one of my greatest interests. That is where your profits go down, if your overhead is too high. I did not think of this same device of comparing your office workers to your field workers. I think it is a good system because my experience was that in trying to compare the overhead under my contracts, we would get into arguments as to what was overhead. Did it include the compensation insurance, or should compensation insurance be charged in with the workers' time to the jobs and things like that? I found it very difficult to compare my overhead with other overheads. As I recall, I got down to 16 percent overhead. It was about a $12,000,000 job then, which I suppose would be a $25,000,000 job now, all new building construction. I had a pretty good overhead rate and I notice here that 16 percent of employees seems to be an average figure. I am sorry I did not think of this particular device at that time because I think it is more valuable than trying to compare overhead in dollars.

Now, as to these particular projects, in the first place, I cannot compare Camden (Shumaker) to Bainbridge and Little Creek. Camden was a different type of job. As I said, they were doing construction work, completing projects which required a higher proportion of engineers and office workers. I went to Camden just before we let that job, by the way, and it was one of the strangest experiences of my

life. As you went down this long powder line, up at the head end of the line, for instance, a steam pipe was complete. You would go down about 100 feet and you would have the bare pipe, the insulation had been left off. You would go another 100 feet, the pipe would be gone but the posts and hangers would be there. You would go a little farther, the hanger was off the post and as you would go farther, no post, but just a hole in the ground. It looked as if they got the word that the war was over, dropped their tools and walked off the job. That condition meant that somebody had to go out in the field and say we need so many feet of pipe, so many feet of insulation, so many more posts. It also took more office employees and technical personnel, because they were supervising lump-sum contracts, taking bids for them and writing specifications. I venture to say, if you added in the personnel working on lump-sum contracts, it would bring this percentage much closer to Bainbridge.

As I recall, when they were running about between 2,300 and 3,000 people on Camden on the cost-plus-fixed-fee contract, they had 1,200 to 1,500 people working on the subcontracts. Really, much of the office work was being done under the major contract. But now Little Creek and Bainbridge——

Mr. DONNELLY. Before you pass to that, this is in line with what you just stated. This is a tabulation of the employees of the prime contractor at Camden and the two cost-plus-fixed-fee mechanical subcontractors, and we get percentages of manual to nonmanual.

(The tabulation is as follows:)

Total employees of the CPFF prime contractor and the 2 CPFF mechanical subcontractors, contract NOy-23197—Shumaker (Camden), Ark.

Date	Non-manual	Manual	Total	Percent of non-manual to manual
Nov. 5, 1950	33	58	91	57
Dec. 2, 1950	132	305	437	43
Jan. 6, 1951	386	1,356	1,742	28
Feb. 3, 1951	398	1,401	1,799	28
Mar. 3, 1951	433	2,062	2,495	21
Apr. 7, 1951	441	2,339	2,780	19
May 5, 1951	387	2,420	2,807	16
June 2, 1951	404	2,346	2,750	17
July 7, 1951, weekly average	365	1,902	2,266	19
Aug. 4, 1951 weekly average	325	1,703	2,028	19

Source: OinCC's office, Shumaker Naval Ammunition Depot, Camden, Ark.

Mr. DONNELLY. Now is that in line with your testimony, or does this reflect a different picture?

Admiral JELLEY. The example I gave on the pipeline, that would be done by the mechanical subcontractor. Well, in addition to this, there are lump-sum contractors, too, who are neither employees of the prime or the electrical and mechanical subcontractors. That is the people who were building the magazines, let out on lump-sum subcontract.

Now, Little Creek and Bainbridge can be compared much better because it was largely the same type of work. I think considering the number of men employed, they are pretty well in line. At Bainbridge we were running up to 2,500 employees. At Little Creek, we

got, well, 375 is the highest I can see there. When Little Creek was up to 375, their percentage was down to 9.6. At Bainbridge maximum of 2,700, they were down to 6.2. You get the same pattern between Little Creek and Bainbridge from the start of the job to finish of the job. Little Creek runs higher; I would say it averages about 30 percent higher. Well, 50 percent higher. That is, as 6 percent is to 9 percent. Yet the number of employees is about eight times as much.

Now for Jacksonville: the first figures on Jacksonville, up until the 31st of March anyway, are 100 percent for rehabilitation. After that undoubtedly some of them were working on new construction. Jacksonville runs even lower than Bainbridge. They ran that job with only 3.69 percent nonmanual to manual. But I think once again there was a reason for that. That fellow was concentrated in a very small area, almost, well, I would say in two city blocks. Little Creek is spread out. Bainbridge is spread out. Shumaker is spread out more than any of them. At Jacksonville, the project manager could almost look out the window and see everything that was going on. He didn't need the same number of people to control the job.

NEED FOR CRITERION TO CONTROL ADMINISTRATIVE OVERHEAD ON CPFF CONTRACTS

Mr. DONNELLY. In summary, Admiral, is this ratio of manual to nonmanual or administrative to field employees, a good criterion for controlling administrative cost in cost-plus-fixed-fee contract?

Admiral JELLEY. As I said, it is a new concept to me, but I have been very much impressed with it and I intend to ask our auditing and accounting people who have to worry about this kind of thing on cost-plus-fixed-fee contracts, to look into it further to see if we can come up with some guidelines and rules. For example, on a job having 500 employees the percentage should not go above 5 percent; on a job having 10,000 employees it should not go above 3 percent. If it is new construction, maybe apply a correction factor of so much. I think it is a much more valuable factor to compare contracts than our previous method of just giving a percentage of the overhead based on dollar volume.

Now, another trouble we have, that this overcomes; on Guam, for example, we had to make a very heavy expenditure in the first 6 months of the contract to set up shops, concrete-mixing plant and all the other overhead structures that were going to be needed to do the construction work. That overhead is spread out over the whole life of the contract. In other words, you spend $100,000 building a concrete-mixing plant in 1949, and that concrete-mixing plant is still furnishing concrete to projects 5 years later, that project today ought to be paying part of the original cost of that mixing plant. That makes it awfully hard to tell whether the overhead on Guam is realistic or not. But I want to find out what the percentage of manual to nonmanual work is on Guam. That will throw out the mobilization charge entirely.

Mr. DONNELLY. Guam is a little bit different than your cost-plus-fixed-fee contract in the States, is it not, because your prime contractor is out of San Francisco and personnel travels from the States to Guam

and then lives there on the contract for a period of 1 or 2 years, whatever it is, and you have a rotation of personnel on Guam?

Admiral JELLEY. That is true, but, after all, once you get the man on Guam, and he is doing construction, you should not have to have a different ratio than you have up at Bainbridge or Camden. The overhead at Guam, in dollar percentages runs very high because we have to charge the overhead, the expense of that transportation, recruiting, feeding them in a camp, and so on. I have not had anything to compare Guam to. Now, I have something I think I can compare Guam to and I want to thank you for your contribution. I think that we might not be able to work it out exactly in this form but in studying some of our World War II records, and our Guam contracts, or our Kwajalein contract, I think we can come up with some rules that will be of use to us.

NAVY USE OF NEGOTIATED CONTRACT

Mr. DONNELLY. Fine. Now, let us pass to the next one which is a negotiated contract.

The Army Corps of Engineers in negotiating a contract invites proposals from a selected list of contractors. Congressman Furcolo this morning mentioned a list of blue-ribbon contractors, for example. The Army invites proposals from a number. Then they pick out the contractor who they believe will perform best, most efficiently and economically.

Now, in the Navy, I understand you deal primarily with one contractor in negotiating.

Admiral JELLEY. No; I think our experience last year was for 59 contracts where we had a limited list of bidders—we would have to count it up but I would say in at least three quarters of the cases we did it on the basis that you describe, except that we had complete plans and specifications and got a bid from several contractors and awarded to the low bidder. The only difference that there is between that and our normal method was that we did not have the advertising. We picked people that we thought could do the job. Then in about a quarter of the cases, we went to an individual and said, you have got the job. Let us sit down and work out the price.

Mr. DONNELLY. The reason I said what I did is that in preparing this large chart, Captain Ventres and I discussed that particular column in the number of contractors considered. Under that column he indicated that you considered more than one contractor but often it would only show that one contractor was considered, for the purpose of chart making. What we do have on the chart under the number of contractors considered for your Oceana job, which was a $7,290,000 project, was that two contractors were considered. You explained this morning that they were already on the job and working. Then we have NAS at Norfolk. There were seven contractors.

Admiral JELLEY. Four of them actually submitted bids.

Mr. DONNELLY. Can you tell the committee this: If you have plans and specifications to submit to contractors from whom you invite proposals for a negotiated contract, why do you use the negotiated contract instead of competitive bid after advertising?

Admiral JELLEY. That ties in somewhat with the question of penalties, liquidated damages and completion time. I realize—I am not

kidding myself—that by putting a penalty in one of our contracts in times like these, that we are not guaranteeing to get our job done. The contractor has so many reasons through the critical materials situation and the controlled material plan that we can never hope to enforce liquidated damages.

Of course, if a contractor absolutely throws up his hands and quits, it would be different. But very few will do that. On a few projects that we consider particularly urgent, we have gone to contractors that we felt were able to complete the job on time whether it was a penalty in the contract or not. And we have in those cases really limited ourselves to contractors that we thought were capable of doing the job. When you advertise widely, and accept bids from everybody, anyone who can get a bond can bid. But just because he got a bond is no guarantee that he will finish the project on time or as fast as possible under the present conditions. So, on those cases where we had a limited list of bidders, we felt the project was so urgent that we wanted something more than the threat of liquidated damages to try to insure that we get our job done promptly.

Mr. DONNELLY. I see.

Admiral JELLEY. And once in a while we can save a few weeks in advertising time. We can call four contractors in and say, "here are the plans and specifications, let us sit down and talk about them and make sure you understand all the details because you have to come back in 3 days with a bid." I do not mind telling four contractors that in a meeting, but if we have to put plans in the mail it takes time for contractors to get the plans after the notice is published. And when you are dealing with a large number of people, if you only give them a week for bidding you start getting requests for extensions because contractors cannot get prices from the subcontractors. But if you call a small number in and sit down and say, "this is a really urgent job and you have been selected because we think you can do the work and it just has to be done on time, this is what it amounts to and now go through the plans, item by item, so that you understand it thoroughly." You can get quick work that way. We use it as an expedient. We used it in less than 2 percent of our contracts last year, but it has a value. It is a very valuable form of contract, particularly in times like these.

Mr. KATZ. It also has a place where a specialized project is involved. We do not want a paving contractor taking water-front jobs because he is the low bidder and then discovering that he cannot do the job because it requires specialized experience. In such a case, we will select seven or eight-water-front contractors and take their bids.

Admiral JELLEY. Will you excuse Captain Ventres now? We have to get him back to his other duties.

Mr. RILEY. Thank you very much, Captain.

NAVY CHOICE OF TYPES OF CONTRACT

Admiral JELLEY. Normally, if you can state the problem in a few words, I would say I would first use lump-sum bids with normal advertising. Next I would go to the negotiated contract with limited list of bidders. And finally, I would go to cost-plus-fixed-fee contract, or a negotiated lump-sum contract or with one bidder. I think

I would put that negotiated contract with one bidder slightly ahead of the cost-plus-fixed-fee contract.

Mr. KATZ. I think you might emphasize that where we use a selected list of bidders, we always award to the low bidder; we do not evaluate. It is handled on a competitive sealed bid basis.

BID OPENINGS BY NAVY ALWAYS OPEN TO THE PUBLIC

Mr. DONNELLY. Do you always have public bid openings on negotiated contracts and on competitive bid contracts?

Mr. KATZ. Yes.

Admiral JELLEY. Do we let anybody in or just the contractors who bid when it is negotiated?

Mr. KATZ. I cannot talk for the field, but in the Bureau we have never stopped anybody from coming into a bid opening.

Mr. RILEY. But you always let your contractors in when you open the bids?

Admiral JELLEY. Yes, sir.

Mr. KATZ. Contractors, representatives of bonding companies, the newspapers, the trade papers; they all come in on bid openings.

Admiral JELLEY. And they have opportunity to examine competitors' bids if he thinks there is some irregularity?

Mr. KATZ. That is correct.

Admiral JELLEY. We give him that opportunity.

NOTIFICATION TO UNSUCCESSFUL BIDDERS

Mr. DONNELLY. In line with that, we have a circular letter signed by the Acting Deputy Chief of the Bureau with respect to notification of unsuccessful bidders in the case of negotiated contracts. I think that might well go in the record at this point.

(The letter referred to is as follows:)

DEPARTMENT OF THE NAVY,
BUREAU OF YARDS AND DOCKS,
Washington 25, D. C., June 1, 1951.

Circular Letter 51–39.
From: Chief, Bureau of Yards and Docks.
To: Addressees indicated below.
Subject: Distribution and public inspection of bid information and notification to unsuccessful suppliers; policy concerning.
Reference: (a) BuDocks ltr C–111; L4–3 dtd 26 Apr 50 to NavDocks lists X–1, X–2, X–3. (b) BuDocks ltr C–111.1/fr; L4–3 dtd 10 Oct 50 to SNDL N1, N2, NavDocks lists X–1, X–2, X–3. (c) Contract Administration Manual (NAVDOCKS P–49).

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7. In the case of negotiated contracts, it is the policy of the Navy to notify unsuccessful suppliers, who submitted quotations, of the fact that their proposals were not accepted. Should additional information be sought by suppliers invited to submit quotations, Procuring Activities may furnish the name and address of the successful supplier and the actual or approximate contract price, but, as a general rule, shall not reveal the names of other unsuccessful suppliers or the amounts and conditions of their quotations. In the case of architectural-engineering service, and CPFF construction contracts those individuals or firms who were interviewed but not selected should be notified as to individual or firm selected.

JOHN J. CHEW,
Acting Deputy Chief of Bureau.

Distribution:
BuDocks CirLet Dist. List.

Admiral JELLEY. That applies to suppliers, which would be equipment or material, not construction. The last sentence takes in architect-engineers and CPFF contracts where we interview members of various firms. We always let them know as soon as possible whether or not they were selected. But I do not think this covers limited bid contracts.

Mr. KATZ. I think it does. I think the purpose is this: Generally, on an unrestricted competitive bid contract most of the people are from the immediate locality. They attend the bid opening and they know that they have been successful or unsuccessful. Under a negotiated contract, they are likely to come from wider areas and many of them do not personally attend the bid opening (if it is an architectural—engineering contract, there is no opening, of course) and as a courtesy, we notify those who have submitted prices, quotations, or have been interviewed that they were not successful and who the successful party was. That is the only purpose of that letter as I understand it.

Admiral JELLEY. Suppliers of material are very likely to be from a wide area and not be present when bids are opened.

Mr. KATZ. Sure.

REJECTION OF ALL BIDS ON SOME OCCASIONS

Mr. FURCOLO. You do not ever call everything off and start all over again?

Admiral JELLEY. Sometimes we reject all bids.

Mr. KATZ. If we do not have enough money even for the low bid.

Admiral JELLEY. Once in a while we reject all bids and readvertise.

Mr. FURCOLO. I experienced that very recently, not in connection with the Navy. I think it was in connection with General Services Administration or whatever Jess Larson's outfit is. They called for bids and one man was the low bidder and thought he had the contract. It was agreed that his concern was fully qualified and was low bidder. Then they called the whole thing off and then later on called for bids again on the same thing. The man who spoke to me and several other Congressmen made the point that it was extremely unfair to his concern because then the other bidders knew exactly what he bid and what it was on. In fact, I think that is exactly what happened and that man's concern did not get the work. They were out in the cold and the Government was in hot water and is now in a lawsuit about it. I am sorry to interrupt, but this was right in point.

Admiral JELLEY. That is exactly the reason why we very reluctantly reject all bids and readvertise, because we feel the bidders have shown their hands. I am reminded of a case within the last month we did that very thing, rejected all bids and readvertised on practically the same basis. Sometimes it is possible to change the basis, take some work away or add to it so that the prices are not exactly comparable. But last month, early last month, we opened bids for three stations for the Air Force in the Bahamas, the long-range guided missiles range. The low bid was qualified; the next low bid had a qualification; the third low bid was qualified. And I think maybe there was a fourth. And the fourth did not have a bid bond. Well, if we had awarded it to the first regular bidder, it would have been over a million dollars higher. I think the low bid was $4,200,000 something

and the first clean bid was almost $6 million. Well, we debated for some time on that and finally decided, we would reject all bids and try again. The fellow who was second low bidder the first time cut his price a little bit and the fellow that was low bidder first time added a little bit to his price and was no longer low bidder.

Mr. FURCOLO. The way you open everything and let people see everything sounds very fair, in the absence of calling everything off. The case I just cited where all bids were called off, which I know did not happen to be with the Navy, was an extremely dangerous course for the Government to take. Although they could say it saved the Government money, and that might be true in a specific case, there is no saving of Government money in the long run, if a policy has opened the door to the possibility of fraud, bad faith, and double-dealing.

Admiral JELLEY. It is very seldom that we readvertise. I remember another case, last year, where there were only three bidders who bid both times and high bidder first time was low bidder the second time. In that case, I forget the technical reason. I think it was funds or legal reasons both, but we managed to change the specifications enough so that I think the second job was half the size of the first, or two thirds the size of the first one. There I think that the original bidders do not have much to complain about; there is enough difference although they have disclosed their price.

Mr. PATTERSON. I might add a point that some Federal agencies in the past have been known to "shop" for prices and follow the market; if they think the market is falling they reject bids and try to take advantage of it. We have never done that.

Admiral JELLEY. You would be accused of chiseling if you did that in private life.

Mr. PATTERSON. We have never done that.

Mr. FURCOLO. In this case I had in mind, the fellow accused them of more than that. In fact, I think he said so in a lawsuit.

Mr. KATZ. If we do not have enough money for the low bid, the only alternative we have is to throw out all the bids and reduce the scope of the contract; or else to negotiate with the low bidder, which is also open to criticism, particularly if the second bidder is pretty close to the first bidder.

Mr. PATTERSON. In my 6 years with the Contract Branch, we never rejected any and all bids except for cause; for lack of money; because the bids were qualified; because we found mistakes in the plans and specifications, since we would not want to put a job out on an inaccurate basis. I was in that office for 6 years and nobody rejected bids just to follow the market or just to shop for a price.

Admiral JELLEY. Very few construction agencies ever do that, anyhow.

STATUTORY PERFORMANCE AND PAYMENT BOND

Mr. DONNELLY. Admiral, with reference to a negotiated contract, as I understand you have indicated two factors: One is the time. You have your plans and specifications but you save a little time by not advertising for the normal period. The second was that you get a more reliable contractor.

Admiral JELLEY. We think we get a more reliable contractor.

Mr. DONNELLY. You indicated that you had some thoughts about a bond.

Now, by the bond, we do take it to mean the statutory performance bond required by the Miller Act of 1935?

Mr. KATZ. Performance and payment bonds.

Mr. DONNELLY. The payment bond makes certain that the suppliers of material and labor get paid, but for your purpose, the performance bond is the important feature?

Mr. KATZ. The Federal Government is not subject to liens, but we have a moral obligation to see that subcontractors are paid, and a practical difficulty because, if they are not paid, they will quit in the middle of a job and our job will fold up. So we are interested in both bonds.

Mr. DONNELLY. That bond was originally prescribed by statute in the Hurd Act of 1898, and reenacted in the Miller Act of 1935, and requires that any contractor who undertakes a construction contract must put up a bond with sufficient surety that he will complete the job. Do you find that contractors who furnish such performance bonds do not furnish you sufficient protection to assure that the work will be completed, so that you do not have to fall back on a negotiated contract?

Admiral JELLEY. Completed on time. It is not—I do not think it is a protection against being completed on time. It is a protection against the work being abandoned, because it would be eventually completed by the bonding company, if necessary. But I wanted to get across the point that in times like these, with the material situation as confused as it is, you have nothing to push the contractor to get the job finished. As a practical matter, you can get a usable building in many cases long before you can close out the contract, particularly today when electrical switch gear takes months and months for delivery. We might have a building all finished except a switch gear cubicle. We can make a temporary hook-up of some kind. Open-knife switches and things like that to carry us over three or four months while we are using the building until the cubicle is delivered.

A good, reputable contractor will give you that building right then and there. A slow contractor might very well have the building half finished; he would take advantage of the fact that he knows he cannot get the switch gear from the suppliers for 4 months from now and he would phase his operation so that the building would be finished at the time the switch gear was finished.

Mr. DONNELLY. With the performance bond, if the contractor should default, you would be assured of performance because the surety would step in and finish the job. But you have the uncertainty of time, where you have an irresponsible contractor. You have complete protection as to the time of completion.

Admiral JELLEY. In peacetime, you could accept a chance of delay like that. Last year I do not think we were in position to accept that possibility of delay in every case.

NEED FOR ASSURANCE OF COMPLETION ON TIME IS PRIME JUSTIFICATION FOR NEGOTIATED CONTRACT

Mr. DONNELLY. So the prime criterion, as I have understood now, for the selection of the negotiated contract, as against competitive

bids, where you have plans and specifications drawn is time, completion on time.

Mr. KATZ. Time and whether or not we have adequate specifications.

Admiral JELLEY. When work is tight, and I understand that Washington has just been declared an area where 40 percent of the construction labor is unemployed, and therefore, this is an area where contractors are looking for work, a fellow doing highway work may get so desperate he will bid on a building. He may have the best intentions in the world but he has not got the organization to build a building in a hurry. He might eventually complete it but it might take him much longer than an experienced building contractor.

ADVANTAGE TO GOVERNMENT IN DIVIDING LARGE CONTRACTS INTO SMALLER ONES

Mr. DONNELLY. One thing that has disturbed us in the negotiated contracts let by the Bureau for this 14-month period is those contracts so large that they may be divisible. That is, you start out with a basic negotiated contract and then by change orders add two or three different types of work for which plans and specifications could be drawn with advertising and opportunity to other contractors to bid, and maybe you would get a better price.

I am referring to the Fifth Naval District which appears here, and see the amount you start out with for Oceana, Va., $7,290,912. Now, many of the contractors in their letters have indicated that many times the Government will let a contract which could be divisible into smaller amounts and thereby permit more contractors to bid.

Here, would you want to explain to the committee why there were not three separate competitive bid contracts on those change orders which were a different type of work, than lumping them in with the negotiated contract.

Admiral JELLEY. There is no doubt that the best procedure would be to take bids on each of those three change orders. As a matter of expediency, I think entirely, we authorized those as additions to the contract. Have you any further explanation, Mr. Glenn, as to these individual changes?

Mr. GLENN. The contractor took bids on the sewage-disposal plant, I know. The others, I am not positive on. But I know he took bids on that. He had a subcontractor do the work for him. He called in three contractors and took bids. It was an expediency of getting the work under way. That was the reason he did it.

Admiral JELLEY. His price, the amount of the change order depended on the low bid he got.

Mr. DONNELLY. Was the Government paying a double profit, a profit on the change order to the prime contractor and a profit to his subcontractor for the same work?

Mr. KATZ. Yes, within limits. The profit we pay to the prime contractor is fixed by contract at a maximum of 6 percent on the price of the subcontract. (NOTE.—Mr. Katz later testified that the profit paid this prime contractor at Oceana was actually 3 percent.) Undoubtedly, we were paying two profits.

Admiral JELLEY. Which we do every time there is a subcontract.

Mr. KATZ. Every time we subcontract something.

Mr. DONNELLY. Would you want to comment on the 23,000 feet of railroad as a possible divisible contract which could have been let after advertising?

Mr. KATZ. Offhand, that looks as if you would have two fellows running around in the same area and getting in each other's way; otherwise, I do not know why it could not be let separately.

Mr. DONNELLY. That observation we have heard, Mr. Katz, and we have asked questions about it. The services have stated an objection to having more than one prime contractor, and the objection generally is that it makes more administrative work for the Bureau or the Corps of Engineers. Do you gain by doing a little more administrative work in order to have on the job more than one prime contractor, in view of the possible economy achieved thereby?

Mr. KATZ. Nobody can guess that. It depends on the individual job. Sometimes you would be better off doing the extra administrative work, which, of course, branches out into a good many directions: Extra security measures and inspection and getting the men into the place; extra contracts to be drawn by your contract people; payment vouchers on five contracts instead of three; three people in your Bureau looking it over instead of one man, like Mr. Glenn; three different project managers. It pyramids. I do not know whether some statistical genius could tell you what it would cost, but it does definitely increase administrative costs to have separate contracts.

Admiral JELLEY. The rule I follow is, would two contractors interfere with each other? For instance, I would hesitate to let one contract to put a storm drain down this street and another to build a road over it at the same time. I would have headaches trying to keep the storm-drainage man far enough ahead of the paving man so that the paving man won't be interfered with. Then if I had settlement on the storm-drain back fill, the paving man would start yelling for an extra or he would say, the reason the road failed back there is because of the storm-drain man. What Mr. Katz meant to imply was not the administrative expense but the fact that the railroad work was going on in the same area as the runway.

Mr. KATZ. I was thinking of the physical features and you mentioned the administrative features.

Admiral JELLEY. If I made a decision on an individual job, I would make a decision on physical features rather than administrative. I have had the experience of running 22 contracts in the same location at the same time, including storm drain alongside a road. It is a headache but it can be done.

Mr. KATZ. Just recently we awarded a job in New Jersey for $1,600,000; that could have been split between five contractors on the various bid items. We could have divided the contract five ways and saved one hundred thousand-odd dollars. One of the contractors made an official complaint to the General Accounting Office, which I need not point out to you is extremely dollar-conscious. However, the General Accounting Office concurred with us that it probably would have cost us more money to award five contracts and to administer them than we could have saved by dividing the award. That does not prove any point except that there are cases where we are better off awarding one contract instead of breaking it into several contracts.

Mr. DONNELLY. The nature of the work is a very important factor in considering that.

Admiral JELLEY. I think it was logical to add the railroad work because the type of contractor who ordinarily does railroad work, sewage disposal plant or jet fuel storage would not normally do runway work. And I am not surprised to hear that one of them was a subcontractor and that was along the jet fuel line.

Mr. GLENN. I do not know about that one (railroad work). I do remember that they had three bidders on that (sewage disposal plant).

Admiral JELLEY. The fellow who does highway work, excavation and earth moving, usually does railroad work.

POSSIBILITY OF DIVISION OF CONTRACT AT MEMPHIS

Mr. DONNELLY. Now, how would these comments apply to Memphis? You actually have a mess hall, barracks with ten wings, and separate training building.

Admiral JELLEY. I would say from hindsight that we should have bid the training building separately. I think that the mess hall and barracks set-up should have been one job and the training building one job. They are separated. A contractor can be working on the training building and not interfere with anybody else. Another man could be working over here on another set-up and he is not interfering with anybody. But if you gave half a barracks to one contractor and the mess hall to one contractor and the other half of the barracks in another contract, they would interfere with each other. You would wind up with one manufacturer, well, say, of toilet fixtures, you would have one kind of toilet fixtures here, another kind of toilet fixtures here; your mess-hall man undoubtedly has utilities, and so on, to match up with the barracks. They would be different.

Mr. DONNELLY. Memphis was about $6¼ million for the three buildings, the barracks, mess hall, and training center. If the contract had been divided as you indicate, barracks and mess hall for one and the training building for the other, would you have had two prime contractors with a lower amount payable to each?

Admiral JELLEY. About four and a quarter, and two.

Mr. KATZ. It may have been that the same man would have been low on both.

DIVISION OF WORK INTO TWO SMALLER CONTRACTS AT M'ALESTER, OKLA., SAVED GOVERNMENT MONEY

Admiral JELLEY. You will be interested in this. We, of course, hear from small business, as you do, these various small business committees and organizations. And we have been under some urging to try to cut our work down. We tried a very interesting procedure out at McAlester, Okla., lately. Mr. Katz, you might go into detail on that. That was a novel expedient as far as I was concerned.

Mr. KATZ. We had about $7 million worth of work at McAlester, Okla.—incidentally, the same general run, the same contractors who bid in Oklahoma, generally bid the Memphis territory. In fact, two of the three contractors, who bid at Memphis will be on the McAlester job. We decided to split this work into two contracts just to see what results we would get.

Admiral JELLEY. For the identical kind of work, for magazines. We would normally bid 100 magazines in one lot, because when a contractor moves his equipment to the site, he can just as well build all 100 of them. I would have said that was the cheapest way to do it. We took a chance on two contracts for 50 magazines apiece.

Mr. KATZ. We could not conscientiously pass up the possibility of savings on a bigger contract that I have intimated you might have because of unified mobilization costs. So we asked in each of these contracts, how much the bidder would deduct from his price if he obtained both contracts? We did not compel anybody to bid both jobs. Interestingly enough, one of the biggest contractors in the United States offered us a half million dollars off each contract if he obtained both. He did not get either one but he came very close to getting both.

Another very good contractor—and the reason I emphasize that is to show you that he knows what he is doing—offered $100,000 off each contract if he got both. Well, it happens separate individuals were low on each contract and they went for almost identical prices, $3,400,000 on one and $3,200,000 on the other.

Admiral JELLEY. Which was considerably below our estimates.

Mr. KATZ. Considerably below our estimates, right. We are getting now to one of the basic objections that the contractors made in their general letters there. We are sold on the small-business principle and sold on spreading the work, giving more contractors a chance if we can, but we do not know what the ideal figure is at which to set contracts up even when we are able to break them up.

Admiral Jelley mentioned to me last night that he thought he was coming up with a figure that we could use as a basis.

Admiral JELLEY. I thought after our discussion of those contractors' letters we would have something definite in mind.

NAVY USE OF COMPETITIVE-BID CONTRACT

Mr. DONNELLY. Now, I think we have exhausted the development of negotiated contract and that gets us into the third type of contract which is the competitive-bid contract, let after advertising. And I have here a schedule of competitive-bid contracts for a million dollars or more let for the zone of the interior for the 14-month period ended August 31, 1951.

(The schedule may be found facing this page.)

Mr. DONNELLY. This table is considerably more detailed than the other two and indicates that the Bureau has used competitive bid contracts much more widely than negotiated or cost-plus-fixed-fee.

Now we have had considerable difficulty with column 3 and column 4 with respect to the other services. Column 3 is the date of design authorization by the using service. That would be BuPers or BuMed or BuAer or whatever it is in the Navy. We notice that the figure January 6, 1951 occurs most frequently as the design authorization date. That was the date of enactment of the second supplemental appropriation bill for 1952.

Admiral JELLEY. In other words, we had undoubtedly cleared that up previously. Maybe the action date was November 15 or something like that, but we were estopped until January 6 from proceeding further.

DATA ON CONTRACTS LET FOR $1

ON COMPETITIVE BID BY BUREAU OF YARD

NAVY FUNDS FOR MILITARY CONSTRUCT

FOURTEEN-MONTH PERIOD ENDED

Col. A Contract No.	1. Location	2. Brief description of Work	3. Date of Design Authorization by Using Service	4. Date of Advertising For Bids	5. No. of Days in Bid Period	6. No. of Bids	7. Date Contract Awarded	8. Amt. of Contract	9. Nam Add o Succe Contr
FIRST NAVAL DISTRICT									
26072	Naval Air Station, Quonset Pt., R. I.	Construct Runway extension	6 Jan 51	27 Apr 51	32	5	5 June 51	2,731,000	M. A Const 728 Provi R. I.
26071	Naval Air Station, Brunswick, Me.	Construct Runways, Taxiways and Parking Area	6 Jan 51	29 May 51	31	3	29 June 51	3,336,000	W. H Anson
26941	Naval Air Facility, So. Weymouth, Mass.	Construct Runways 17-35 and 2-20, Taxiways, Parking Area	6 Jan 51	1 Aug 51	*41 See Note	14	19 Sep 51	2,450,009	Gil Inc. 12 Ne Malde
THIRD NAVAL DISTRICT									
25165	Naval Air Station, Floyd Bennett Field, Brooklyn, N. Y.	Extend Runway 1-19 and facilities. Lighting System	6 Jan 51	29 May 51	32	8	3 Aug 51	3,490,626	Alber Inc. Const 241 New
26090	Naval Ammunition Depot, Earle, N. J.	Extend and Repair Railroad system	23 Mar 51	23 May 51	30	10	6 Nov 51	1,619,650	Horn 2174 Merr
FOURTH NAVAL DISTRICT									
22367	Naval Aeronautical Turbine Laboratory, Trenton, N. J.	High pressure blower wing, test wing and miscellaneous construction	6 Jan 51 25 June 48	10 Feb 51 14 Dec 50	* 120 * 132 See Note	12	11 May 51	6,580,000	Dani Inc. 717 Newa
24476	Naval Air Development Center, Johnsville, Pa.	Development and Test Facilities	6 Jan 51	28 May 51	34	6	30 June 51	2,005,450	McCl 1620 Phil
20300	Naval Aeronautical Turbine Laboratory, Trenton, N. J.	Construction of altitude exhauster wing, pump houses, cooling towers and miscellaneous construction	6 Jan 50	25 May 50	*63 See Note	14	10 July 50	3,044,927	East Inc. 809 Tren
23190	Naval Air Development Center, Johnsville, Pa.	Strengthening and extension of Runway	6 Jan 51	11 June 51	18	5	12 July 51	1,438,210.85	H. Inc P. Lan
POTOMAC RIVER NAVAL COMMAND									
24044	Naval Research Laboratory, Bellevue, D. C.	Construct Research Lab. Bldgs. 74 & 75	6 Jan 51	31 May 51	37	9	14 June 51	1,214,000	Curt Inc. 1905 Wash
SEVERN RIVER NAVAL COMMAND									
24113	Naval Engineering Experimental Station, Annapolis, Md.	Submarine propulsion test facilities	6 Jan 51	9 Feb 51	*48 See Note	12	11 Apr 51	1,277,400	Cram Inc. 2601 N. Wash
FIFTH NAVAL DISTRICT									
24497	Naval Amphibious Base, Little Creek, Va.	Development of permanent facilities	6 Jan 51	24 Feb 51	26	7	23 Mar 51	1,065,402	Dian Co. 2801 Wash
26839	Fleet Air Defense Training Center, Dam Neck, Va.	Expansion of facilities	6 Jan 51	12 Mar 51	35	7	24 Apr 51	4,613,000	Virg Co. 80 New

OR $1,000,000 OR MORE

YARDS & DOCKS IN OBLIGATING

TRUCTION (ZONE OF INTERIOR)

ENDED AUGUST 31, 1951

Name & Address of Successful Contractor	10. No. of Days Allowed For Completion	11. Liquidated Damage Penalty Per Day	12. Amt. & Date of Each Increase of $100,000 or More Over Contract Amt. Through Change Orders, Addenda, Supplemental Contracts, Etc.	13. Brief description of Work Embodied in Such Increase
M. A. Gramminc Construction Co. 728 Valley St. Providence, R. I.	180	1,200.	None	
W. H. Hinman Co. Anson, Maine	180	1,200.	None	
Bill Wyner Co., Inc. 12 Newland St., Malden, Mass.	300	1,300.	None	*Note: 28 Aug 51 first bid date. Postponed to 11 Sep 51 due to issuance of 3 addendum.
Albert A. Lutz Co., Inc. and Tri- City Constr. Corp. 241 W. 17th St. New York, N. Y.	152 364	300. 675.	None	
Horn Constr. Co. 2174 Hewlett Ave. Merrick, N. Y.	601	400.	None	
Daniel J. Cronin, Inc. 717 S. Orange Ave. Newark 6, N. J.	450	1,200.	None	*Note: Jan 29, 1950 first bid date. Postponed to 25 Apr 50. Postponed indefinitely due to extensive revisions in plans and specifications. Readvertised 21 Mar 51. Bid date 15 Apr 51 postponed to 25 Apr 51 due to issuance of 3 addendum.
McCloskey and Co. 1620 W. Thompson St. Philadelphia, Pa.	276	500.	None	
Eastern Constr. Co., Inc. 309 E. State St. Trenton, N. J.	402	950.	None	*Note: 7 June 50 first bid date. Postponed to 21 June 50. Postponed to 6 July 50 due to issuance of 5 addendum.
H. R. Miller Co., Inc. P. O. Box 1235 Lancaster, Pa.	360	475.	None	
Curtis Builders, Inc. 1906 M Street, N.W. Washington, D. C.	358	300.	None	
Cramer-Vollmerhausen, Inc. 2601 Connecticut Ave., N. W. Washington, D. C.	365	375.	None	*Note: Original date 15 Mar 51 - 34 days in bid period. Due to issuance of two addendum bid date changed to 29 Mar 51 - 48 days in bid period.
Diamond Construction Co. 2801 8th St., N. E. Washington, D. C.	202	500.	Change B - $ 150,242.78 9 Oct 51 Change A - $ 683,816. 25 Jan 51	Additional reinforcing steel for precast piling - 1,082,680 pounds. Construct two additional piers, 406 feet of ramp and 462 feet of bulkhead.
Virginia Engineering Co., Inc. 30 29th Street Newport News, Va.	360	750.	Change A and B - 361,015. Oct 51 (deductive)	Omit Barracks No. 1 and corridors to Barracks No. 2, BOQ foundations, services to BOQ, foundation and utilities for Fire Control Building.

Revised 15 Feb 52

DATA ON CONTRACTS LET F

ON COMPETITIVE BID BY BUREAU OF

NAVY FUNDS FOR MILITARY CONS

FOURTEEN-MONTH PERIOD

Col. A Contract No.	1. Location	2. Brief description of Work	3. Date of Design Authorization by Using Services	4. Date of Advertising For Bids	5. No. of Days in Bid Period	6. No. of Bids	7. Date Contract Awarded	8. Amt. of Contract	9. Name Addre of Success Contrac
FIFTH NAVAL DISTRICT (CONTINUED)									
28414	Naval Air Facility, Chincoteague, Va.	Extension of Runway and Improvements	6 Jan 51	8 May 51	28	5	13 June 51	3,256,256	Willi Co. 1269 Anne Norfo
28422	Naval Auxiliary Air Station, Fentress, Va.	Extension of Runway and Taxiway	6 Jan 51	26 May 51	24	5	27 June 51	1,894,758	Bero An and Con Corp. Box 477 Hampton
27111	Naval Shipyard, Portsmouth, Va.	Rehabilitate storm and sanitary sewers	21 Apr 50	2 May 51	34	3	30 June 51	1,343,545	A. G. P Co. 1805 Co Portsmo
28421	Naval Auxiliary Air Station, Edenton, N.C.	Improvement and extension to Airport Pavements including strengthening, resurfacing and extension of Runway 1-19 and construction of Taxiways	6 Jan 51	26 May 51	26	3	17 July 51	2,050,116	Bows Co Inc. an Ritter Venture Oceana,
24655	Marine Corps Forwarding Depot, Portsmouth (Pig Point), Va.	Construction of Warehouses, including concrete foundations, frames, grading, roads, demolition, drainage, masonry, carpentry, painting, plumbing, heating, ventilating, electrical sprinkler sys. and related work	6 Jan 51	16 July 51	32	7	5 Sep 51	2,450,400	Grannis Thompso Co. P. O. B Charlot
22494	Naval Auxiliary Air Station, Oceana, Va.	Furnish materials and perform the work for resurfacing runways and taxiways and incidental related work.	17 June 50	25 Aug 50	15	7	18 Sep 50	1,441,259	I. E. R 426 Wes Norfolk
SIXTH NAVAL DISTRICT									
23817	Naval Air Station (Mayport), Jacksonville, Florida	Dredging.	6 Sep 50	12 Dec 50	41 6 Addenda Issued	5	8 Feb 51	1,293,103	Standar Corp. 80 Broa New Yor
24976	Marine Barracks, Camp Lejeune, N. C.	Temporary emergency, Tent Camp #2.	6 Jan 51	9 Mar 51	30	12	19 Apr 51	1,126,660	North C Construc Inc. P. O. B Raleigh
27253	Naval Air Station, Key West, Fla.	Extension of Runway	6 Jan 51	13 Apr 51	34	2	17 May 51	855,000	M. M. M Son, In 1030 N. Terrace Lauderd
22493	Naval Auxiliary Air Station (Mayport), Jacksonville, Fla.	Mooring Facilities	6 Sep 50	16 Apr 51	37	6	4 June 51	1,952,600	J. D. A P. O. B Jackson
23453	Marine Corps Air Station, Cherry Point, N. C.	Extension of Runway for Jet Operations	6 Jan 51	28 Apr 51	20	4	15 June 51	2,751,250	Nello L Box 113 Durham,
27261	Naval Auxiliary Air Station, Cecil Field, Fla.	Improvements including runways, taxiways, aprons; construction of	6 Jan 51	28 Apr 51	27	6	22 June 51	7,139,577	L. G. D Son, In North H

ET FOR $1,000,000 OR MORE

U OF YARDS & DOCKS IN OBLIGATING

CONSTRUCTION (ZONE OF INTERIOR)

IOD ENDED AUGUST 31, 1951

ame & ddress of ccessful ntractor	10. No. of Days Allowed For Completion	11. Liquidated Damage Penalty Per Day	12. Amt. & Date of Each Increase of $100,000 or More Over Contract Amt. Through Change Orders, Addenda, Supplemental Contracts Etc.	13. Brief description of Work Embodied in Such Increase
illiams Paving o. 269 E. Princess nne Road orfolk, Va.	212	750.	None	
o Engineering Construction p. 477 pton, Va.	182	750.	Change B - + 232,841.92 30 Nov 51	Install tie-rods on 20" centers, 300 ft. of 30" and 566 ft. of 36" concrete pipe, remove 22,193 cubic yds. of unsuitable material and replace with select fill, remove 6,300 cubic yds. of subgrade and replace with 12" sand and lateral "Y" ditches every 100 ft.
B. Pinkston and 6 County St. tsmouth, Va.	359	425.	None	
e Contracting Co., . and T. E. ter Corp., Joint ture, ana, Va.	212	750.	Change A - + 467,800. 28 Sep 51	Additional plane parking apron drainage and 10 ft. wide stabilized shoulders.
nnis & Sloan, mpson & Street . Box 1647 rlotte N. C.	358	500.	Change A - + 235,000. 29 Oct 51	Additional 200 ft. Bay or Warehouse #2
. Ritter West York St. olk, Va.	166	350.	None	
dard Dredging road St. York, N. Y.	273	300	None	
h J. Kenyon truction Co., . Box 1283 igh, N. C.	141	350.	None	
. Wright and Inc. N. E. 5th ace, Fort erdale, Fla.	149	325.	Change A - + 130,361.20 2 Oct 51	Widening runways and additional lighting fixtures
Auchter Co. . Box 1193 sonville, Fla.	242	550.	None	
L. Teer Co. 131 am, N. C.	242	800.	None	
Defelice and Inc. Haven, Conn.	359	1,500.	Change B - 1,158,352.51 21 Nov 51	Paving Third Runway and additional plane parking area.

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DATA ON CONTRACTS LET

ON COMPETITIVE BID BY BUREAU

NAVY FUNDS FOR MILITARY CO

FOURTEEN-MONTH PERIO

Col. A Contract No.	1. Location	2. Brief description of Work	3. Date of Design Authorization by Using Service	4. Date of Advertising For Bids	5. No. of Days in Bid Period	6. No. of Bids	7. Date Contract Awarded	8. Amt. of Contract	9
SIXTH NAVAL DISTRICT (CONTINUED)									
27275	Naval Air Station, Memphis, Tenn.	Improvements, including runways, taxiways and aprons; constuction of	6 Jan 51	2 May 51	37	5	28 June 51	1,869,579	
27274	Naval Air Station, Memphis (Millington), Tenn.	2 Barracks and Mess Hall, Training Bldg.	6 Jan 51	16 May 51	30	3	16 July 51	5,444,637	
27276	Marine Corps Air Station, Cherry Point, N. C.	Construction of Warehouses	6 Jan 51	9 May 51	51	6	16 July 51	1,288,251	
27266	Naval Air Station, Jacksonville, Fla.	Extend Runways and Taxiways and Dredging	6 Jan 51	28 Apr 51	37	3	17 July 51	1,931,702	
28631	Naval Air Station, Pensacola, Fla.	Construct Runways, Taxiways and Aprom	6 Jan 51	25 May 51	33	3	23 July 51	6,425,608	
27494	Naval Air Station, Pensacola, Fla.	Provide steam, air, gas, fuel oil and water distribution sys.	6 Jan 51	8 May 51	38	2	*12 Sep 51 See Note	1,037,174	
EIGHTH NAVAL DISTRICT									
24833	Naval Auxiliary Air Station, Kingsville, Texas	1 Construct runway 13-31, taxiway E (except the end zones of runway 13-31 outside present boundary of Air Station 2. Entire work	6 Jan 51	10 Apr 51	10	6	2 May 51	4,775,735.08	
NINTH NAVAL DISTRICT									
27727	Naval Air Station, Olathe, Kansas	Airfield improvements	6 Jan 51	19 May 51	21	6	23 June 51	2,917,000	
27722	Naval Air Station, Denver, Colorado	Extension and reinforcement of Runways and Taxiways	6 Jan 51	1 May 51	36	6	25 June 51	1,174,200	
27733	Naval Air Station, Glenview, Ill.	Runway and Taxiway revisions	6 Jan 51	31 May 51	13	7	30 June 51	1,513,000	
27731	Naval Air Station, Denver, Colorado	New Naval Air Reserve Training Hanger and Leantos	6 Jan 51	23 May 51	37	6	6 Aug 51	1,716,000	
ELEVENTH NAVAL DISTRICT									
	Naval Electronics Lab., Pt. Loma, Calif.	Construction of Laboratory Supply and Utility Building	6 Sep 50	20 Dec 50	39	8	17 Feb 51	2,686,800	
24755	Naval Ordnance Test Station, Inyokern, China Lake, Calif.	Additional Facilities, Salt Wells Pilot Plant	1 Apr 50	5 Feb 51	23	5	16 Mar 51	1,607,574	
26648	Naval Ordnance Test Station, Inyokern, China Lake, Calif.	210 Family Housing Units	3 Jan 51	13 Feb 51	23	10	16 Apr 51	2,731,200	

*(1) Extensions and improvements to runways and taxiways
*(2) Remainder of work
*(3) Construction of all runway and taxiway pavements, drainage structures and fencing
*(4) Remainder of work
*(5) Usable completion
*(6) Final completion

LET FOR $1,000,000 OR MORE

EAU OF YARDS & DOCKS IN OBLIGATING

X CONSTRUCTION (ZONE OF INTERIOR)

ERIOD ENDED AUGUST 31, 1951

	9. Name & Address of Successful Contractor	10. No. of Days Allowed For Completion	11. Liquidated Damage Penalty Per Day	12. Amt & Date of Each Increase of $1,000,000 or More Over Contract Amt. Through Change Orders, Addenda, Supplemental Contracts, Etc.	13. Brief description of Work Embodied in Such Increase
9	Lehman-Roberts Co. Inc. and Bowyer and Johnson The Crook Bldg. Jackson, Tenn.	251	450.	None	
7	R. F. Farnsworth and Co., Inc. 1515 South Salcedo St. New Orleans, La.	400 360	950. 375.	Change A - 739,762. 10 Sep 51	Install acoustical ceilings, construct Hangar Shop, add 2 wings Barracks Units 5 and 6.
1	Conn Structors 7300 N. E. 1st Place Miami, Fla.	271	300.	None	
2	Duval Engineering and Contracting Co. 1746 E. Adams St. Jacksonville, Fla.	271 152	450. 100.	None	
8	Smith Engineering and Construction Co. P. O. Drawer 1831 Pensacola, Fla.	360	1,800.	Change A - 116,900 Nov 51	Reduce pavement lengths and provide flexible pavement in lieu.
4	Henry G. Dupree Box 3456 Jacksonville, Fla.	136	300.	None	*Note: 27404 - Because of rapidly rising costs the Bureau was unable to make award within the funds originally appropriated and it was necessary to transfer funds being saved on other projects to make the award for this contract. Considerable time was needed in determining where savings were possible. Low bidder held his bid as valid for 90 days.
05	J. M. Bellinger, Texas Bitulithic Co. and A. Dean Word Co. Box 4227, Corpus Christi, Tex.	65 179	1,200. 1,200.	None	
0	Reno Construction Co. Overland Park, Kansas	417 *(1) 321 *(2)	500. *(1) 75. *(2)	None	
00	Western Paving Construction Co. 2135 Washington St. Denver, Colo.	158 *(1) 409 *(2)	450. *(1) 50. *(2)	None	
0	Thomas McQueen Co. 1313 Circle Ave. Forest Park, Ill.	168 *(3) 319 *(4)	300. *(3) 50. *(4)	None	
00	Mead and Mount Construction Co. 240 Railway Exchange Building Denver, Colorado	446 *(5) 516 *(6)	200. *(5) 300. *(5)	None	
0	M. H. Golden Constr. Co. 2425 Noell Street San Diego, Calif.	542	650.	None	
4	George W. Carter Co. 1721 W. Olympic Blvd. Los Angeles 15, Calif.	179	450.	None	
0	H. B. Nicholson, James L. Ferry and N. P. Van Valkenburgh 117 E. Colorado St. Pasadena, Calif.	198	725	Change A - - 213,850. 20 Aug 51 (Deduct)	Construct one type G duplex without garage, place concrete slab floor in 132 garages, eliminate asphalt pavement, felt underlay credit for government-furnished materials.

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DATA

ON COMPETITIV

NAVY FUNDS

FOUR

Col A Contract No.	1. Location	2. Brief description of Work	3. Date of Design Authorization by Using Service	4. Date of Advertising For Bids	5. No. of Days in Bids Period	6. No. of Bids	7. Date Contract Awarded
ELEVENTH NAVAL DISTRICT (CONTINUED)							
28540	Naval Air Missile Test Center, Pt. Mugu, Calif.	1 Sanitary Sewers, Gas & Water Distribution Sys. 2 Two barracks with utilities 3 Four barracks with utilities 4 Missiles Project Bldg.	6 Sep 51	21 May 51	24	8	23 June 51
27076	Marine Corps Air Station, El Toro, Calif.	Preservation Building. Supply Warehouse.	6 Jan 51	18 June 51	11	3	18 July 51
27062	Naval Auxiliary Air Station, Miramar, Calif.	Construct Runway 6R-24L, Taxiways and Parking Area	6 Jan 51	11 June 51	18	4	19 July 51
23438	Marine Corps Air Station, El Toro, Calif.	Extension and Strengthening of Runways and Taxiways	6 Sep 50 6 Jan 51	9 June 51	19	9	23 July 51
27065	Naval Air Station (North Island), San Diego, Calif.	Extension of Runway 11-29 and Taxiways	6 Jan 51	5 June 51	26	3	23 July 51
27072	Naval Auxiliary Air Station, Brown Field, San Diego, Calif.	Extension of Runway for Jet Operation	6 Jan 51	12 June 51	17	7	7 Aug 51
24968	Marine Barracks, Camp Joseph H. Pendleton, Oceanside, Calif.	Barracks and Messing Facilities at Chappo Flats	6 Jan 51	18 June 51	24	5	9 Aug 51
28387	Naval Ordnance Test Station, Inyokern, China Lake, Calif.	Test Buildings and Facilities for Ballistics Ground Ranges	28 Sep 50	15 June 51	32	5	9 Aug 51
27079	Naval Air Station, Mojave, Calif.	Extend and Strengthen Runway 12-30 and Taxiway. Reconstruct Runway 12-30. Other miscellaneous airfield work	6 Jan 51	8 June 51	19	5	20 Aug 51
27061	Naval Auxiliary Air Station, Miramar, Calif.	Construct Aircraft Maintenance Hanger	6 Jan 51	20 June 51	24	6	4 Sep 51
27057	Naval Auxiliary Air Station, El Centro, Calif.	Extension of Runway 8L-26R, Taxiways and Parking Areas	6 Jan 51	24 July 51	27	5	18 Sep 51
27063	Naval Auxiliary Air Station, Miramar, Calif.	Construction of ten (10) 100-man Barracks; 3000 man Subsistence Bldg.; Supply & Office Bldg.; Supply Warehouse; Gatehouse, other miscellaneous work	6 Jan 51	30 Aug 51	20	8	12 Oct 51

ATA ON CONTRACTS LET FOR $1,000,000 OR MORE

ITIVE BID BY BUREAU OF YARDS & DOCKS IN OBLIGATING

NDS FOR MILITARY CONSTRUCTION (ZONE OF INTERIOR)

FOURTEEN-MONTH PERIOD ENDED AUGUST 31, 1951

Con- t ded	8. Amt. of Contract	9. Name & Address of Successful Contractor	10. No. of Days Allowed For Completion	11. Liquidated Damage Penalty Per Day	12. Amt. & Date of Each Increase of $1,000,000 or More Over, Contract Amt. Through Change Orders, Addenda, Supplemental Contracts, Etc.	13. Brief description of Work Embodied in Such Increase
ne 51	2,428,358	Al-Co Company 5423 Flemish Village Lane Los Angeles 27, Calif.	30 251 210 300	30. 125. 225. 270.	None	
ly 51	1,243,625	Allison Honer Co. 312 North Main St. Santa Ana, Calif.	270 330	60. 250.	None	
ly 51	3,370,996	Morrison-Knudsen Co., Inc., Macco Corp. and Ford J. Twaits Co., Joint Venture, 411 W. 5th St. Los Angeles, Calif.	369	875.	None	
ly 51	6,490,000	Bressi and Bevanda Constructors and A. Teichert & Son, Inc., Joint Venture, Box 439 North Hollywood, Calif.	358	1,375.	None	
ly 51	1,165,200	R. E. Hazard and Sons Contracting Co. and Clyde W. Wood and Sons, Inc., Joint Venture, Cabrillo Freeway and Friars Road San Diego, Calif.	216	300.	None	
51	1,137,000	Pacific Rock and Gravel Co. Box 30 Monrovia, Calif.	213	450.	None	
51	3,438,124	M. H. Golden Construction Co. 3485 Noell Street San Diego, Calif.	363	950.	None	
51	1,309,773	Haddock-Engineers, Ltd. 1616 South Greenwood Ave. Montebello, Calif.	305	300.	None	
51	1,307,000	R. R. Hensler 7550 Wheatland Ave. Sun Valley, Calif.	239	425.	None	
51	3,040,415	Gunther and Shirley Company 714 W. Olympic Blvd. Los Angeles, Calif.	365	625.	None	
51	1,692,920	Morrison-Knudsen Co., Inc. 411 W. 5th St. Los Angeles, Calif.	274	625.	None	
51	4,483,282	F. E. Young Construction Co. 2141 Main Street San Diego, Calif.	428	1,200.	None	

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DATA ON

ON COMPETITIVE

NAVY FUNDS F

FOURTE

Col. A Contract No.	1. Location	2. Brief description of Work	3. Date of Design Authorization by Using Service	4. Date of Advertising For Bids	5. No. of Days in Bid Period	6. No. of Bids	7. Date Contract Awarded
TWELFTH NAVAL DISTRICT							
27171	Naval Air Station, Moffett Field, Calif.	Aircraft Loading and Parking Area Additions	6 Jan 51	10 May 51	26	6	18 June 5
27957	Naval Air Station, Moffett Field, Calif.	Repair Garage and Supply Warehouse	6 Jan 51	31 May 51	21	5	27 June 5
27950	Naval Air Station, Alameda, Calif.	Runway and Taxiway Construction	6 Jan 51	28 May 51	22	4	30 June 5
27956	Naval Air Station, Moffett Field, Calif.	Runway and Taxiways Additions	6 Jan 51	31 May 51	20	4	30 June 5
27951	Naval Air Station, Alameda, Calif.	Construct Engine Overhaul Bldg., and Supporting Utilities	6 Jan 51	5 June 51	21	5	15 Aug 51
27949	Naval Ammunition Depot, Hawthorne, Nev.	Mine Assembly and Explosive Loading Facilities	6 Jan 51	5 June 51	21	2	20 Aug 51
THIRTEENTH NAVAL DISTRICT							
18088	Naval Radio Station, Snohomish County, Arlington, Wash.	Furnish Materials and perform Work for Providing and Securing Steel Towers	25 June 48	17 Nov 50	65 1 Addenda Issued	19	29 Jan 51
24296	Naval Receiving Station, Seattle, Wash.	Repairs to Pier 91	22 Dec 50	7 Feb 51	31	5	2 Apr 51
26305	Naval Air Station, Whidbey Is., Wash.	Construct Runway 6-24 and Taxiway	6 Jan 51	3 May 51	29	4	14 June 5

A ON CONTRACTS LET FOR $1,000,000 OR MORE

IVE BID BY BUREAU OF YARDS & DOCKS IN OBLIGATING

DS FOR MILITARY CONSTRUCTION (ZONE OF INTERIOR)

URTEEN-MONTH PERIOD ENDED AUGUST 31, 1951

Con- t ded	8. Amt. of Contract	9. Name & Address of Successful Contractor	10. No. of Days Allowed For Com- pletion	11. Liqui- dated Damage Penalty Per Day	12. Amt. & Date of Each Increase of $100,000 or More Over, Con- tract Amt. Through Change Orders Addenda, Supplemental Contracts, Etc.	13. Brief de- scription of Work Embodied in Such Increase
ne 51	2,021,350	Guy F. Atkinson Co. 10 W. Orange Ave. South San Francisco, Calif.	151	475.	None	
ne 51	1,512,830	Guy F. Atkinson Co. 10 W. Orange Ave. South San Francisco, Calif.	Warehouse 151 Garage 181	Warehouse 400. Garage 175.	None	
ne 51	2,886,556	Stolte, Inc. and Gallagher & Burke, Inc., Joint Venture, 6451 San Leandro St. Oakland, Calif.	300	500.	None	
ne 51	1,846,840	Guy F. Atkinson Co. 10 W. Orange Ave. South San Francisco, Calif.	151	475.	None	
g 51	1,296,495	Dinwiddie Construction Co. 210 Crocker Bldg. San Francisco, Calif.	246	150.	None	
g 51	1,770,146	Dinwiddie Construction Co. 210 Crocker Bldg. San Francisco, Calif.	243	450.	None	
n 51	1,088,605	City Electric & Fix- ture Co. 2414 - 3rd Seattle, Wash. and Morrison-Knudsen Co. Hoge Building Seattle, Wash.	360	275.	None	
r 51	1,515,700	General Construction Co. 3840 Iowa Street Seattle, Wash.	390	375.	None	
ne 51	4,025,642	Peter Kiewit Sons Co. Box 491 Longview, Washington	300	800.	None	

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BUDOCKS ALLOWS AMPLE TIME AFTER DESIGN AUTHORIZATION TO DRAW PLANS AND SPECIFICATIONS

Mr. DONNELLY. Now, we will notice as we get into the other services that the dates between column 3 and column 4 are often very close together, and I would like to ask a general question of you, Admiral, as to whether the sponsoring bureaus in Navy, BuAer, BuPers and the like, give BuDocks ample time in which to draw plans and specifications after they give you the design authorization?

Admiral JELLEY. I can't answer your question. We are the ones that have complete control over setting the bid date. They have no control at all. In other words, we give ourselves ample time. Once they approve the schematics or give us working drawings, it is in our hands from then on. They have no control over those bid dates. These are public works projects?

Mr. DONNELLY. Yes.

Admiral JELLEY. For annual funds of course, they might say you have to obligate the money by June 30. They have that measure of control.

Mr. PATTERSON. Admiral, perhaps I can clarify that a little bit. I think we give design authorizations—looking at column 3—we do this quite consistently. We do a little advance planning. Then we wait until our appropriation bill is actually signed and then many times we have design authorizations already waiting to go. We immediately by dispatch or otherwise, advise all the field activities to proceed. You have the money we say, go ahead and finish actual design and get it out for bids as soon as you can.

In the meantime, we try to have the outline material approved by the sponsoring bureaus.

These dates in column 3, I think, are probably taken from the date of the letter or dispatch released by the Bureau of Yards and Docks to the field activity stating that we are all set to go. If the field activity is doing the design, go ahead and get on with it. We tried to get them out immediately the minute we knew the bill, the 1952 appropriation, was signed.

Mr. DONNELLY. Let me give you this hypothesis: Apparently the Navy operates differently from the Air Force and the Army.

Admiral JELLEY. In some ways.

Mr. DONNELLY. The Corps of Engineers is construction service for the Air Force. The Air Force is therefore the sponsoring bureau, as we would have a sponsoring bureau in the Navy. The Air Force says we want this built, and we want beneficial occupancy in 90 days. So it gives the Corps of Engineers 90 days to draw plans and specifications, let a contract, and have the thing built, which is an intolerably short period of time and has resulted in much excessive expenditure as I think the hearings will develop.

NAVY DOES NOT RUSH PLACING OF CONTRACTS AND CONSTRUCTION WORK

Now, in the Navy, as I understand your testimony, you, as Chief of the Bureau of Yards and Docks, have the authority of fixing the date of advertising and the completion date for the contract.

Admiral JELLEY. Yes, sir.

Mr. DONNELLY. So that you are not pressured by the sponsoring bureau to concentrate your activity in a particularly short period of time?

Admiral JELLEY. We are seldom pressured to accept an unrealistic time limit. Now, let me give you a typical case. It is the only one I recall, as a matter of fact.

It doesn't happen very often but we do have a project up in Philadelphia to provide the foundations for a catapult. That catapult is the catapult to go on one of the carriers under construction and BuAer knows that it is going to take them so much time to test the catapult after the foundations are completed and the catapult installed. Then they have to manufacture the other ones and have them ready for the ship. So they see a deadline approaching. They came to me and said, "What can we do to speed up this job?" Now, it so happens in Philadelphia, that was the place, as I recall, we went ahead with the contract for the pile foundations before we had the rest of the drawings completed. Then we took bids on the concrete work going on top of the piles. We gave it special attention in our priority section. We managed to get some directives from NPA for early delivery of steel and electrical equipment.

I recall another case in Annapolis, where, after the contract was let, they had a change in plans and had to test a piece of equipment sooner than they expected. There we speeded things up by working with NPA and getting a directive that advanced the date of delivery of critical materials.

But I know of no case in the last 6 years that I have been in the Bureau, where one of the other bureaus would come around and say we have to have this in 90 days. They have always listened to reason. If I say, you just can't get it in 90 days, it is impossible, and then suggest we can give it to you in 120 days or in 150 days, it has always been accepted, to the best of my recollection.

We had a case just last month, with the marines, in connection with one of the 1952 projects. They wanted this project done by a certain date. We said it would take at least 3 months longer and after discussing it, they decided that they could put in a temporary tent camp. We let our contract so that the contractor was required to have so much finished in 60, so much in 120, and so much in 180 days. So by getting a usable increment in 60 days and putting in some tents they could get along and did not have to have the whole thing finished in 60 or 120 days. But I think we get that cooperation because the control is in our hands so completely.

Commander Etter reminds that funds are released to Bureau of Yards and Docks for construction, not to the Bureau of Ordnance or Bureau of Aeronautics or one of the other bureaus.

NAVY DOES NOT FIX UNREALISTIC COMPLETION DATES NOR BUY TIME FROM CONTRACTORS

Mr. DONNELLY. That leads up to this: We have come across the expedient of the Government buying time, where apparently not the Bureau of Yards and Docks but the Government construction service sets an unrealistic completion date, high liquidated damages penalties to spur the contractor on to completing, getting in a larger force than

he normally would have, and so forth; and that has turned out to be very costly.

Do I understand from your testimony that the Navy does not buy time from contractors as a rule?

Admiral JELLEY. Not as a rule but one of our district offices might have used high liquidated damages to get a job finished in a hurry. I have no doubt that prudent contractors or cautious contractors will put in an allowance for possible liquidated damages. I can give you a very good example on a small job last year. It was a small sheet pile structure of some kind and they had 90-day completion time on it. Well, a contractor called me up and said, "what the heck am I to do now? I have just been checking with Bethlehem Steel and U. S. Steel, and I can't get steel sheet pile and nobody else can get steel sheet pile in less than 120 days. How can you build something in 90 days when you can't get material for 120 days? If I write that on my bid, it qualifies my bid." I advised him to call up the office that issued the request for bids and explain the situation. Let them verify that and I am sure they will change it. We have people who don't check closely enough on market when they are in a hurry, and put in unrealistic times.

Mr. DONNELLY. If liquidated damage penalties are included in a contract, isn't it generally true that the contractor adds something to his bid to take care of the eventuality?

Admiral JELLEY. I would not say it is generally true. It is true in a small proportion of cases from my own personal experience. Perhaps Mr. Katz or Mr. Patterson would like to comment on that.

Mr. Patterson. I think that has been our experience. I don't think anyone has a crystal ball that can always hit the exact right time, but if we were foolish enough to put a 60-days completion date on a job that anyone in his right mind would know should be 100 days, I think that theoretically a prudent contractor would know that it would take 100 days and he would just add 40 days of liquidated damages and add that on his price. It is a matter of experience for the engineers and specification writers to establish realistic dates. In my connections in the contract division and in the construction department, it has been my experience that over-all we have done as good a job as possible on realistic completion dates.

Our time extension requests for a 6-year period, as Mr. Katz can say for the past year or so, would indicate that we had pretty good completion dates. I think you could say theoretically that we pay our own liquidated damages.

Mr. KATZ. I do not know whether you gentlemen have seen construction estimates gotten up, but the contractor sits in his office (generally pretty close to midnight the day before bid opening) and he adds up materials and labor, then he adds his overhead, and then every contractor that I have ever known, adds a percentage for contingencies. The percentage varies with the particular organization. Some of them add 10 percent and in that case they will add 10 percent on every contract they bid. Some add 15 percent, some 5. Every prudent contractor adds a contingency and it is my guess that it will be about the same whether you put in or leave out the liquidated damages. It will be the same 10 percent or 15 percent or 5 percent except for the cases where you are so obviously short of time that you have to figure a little bit extra.

Admiral JELLEY. Would not the contractor complain? It has been my experience that if you don't give him enough time to bid, or if you have some feature in the specifications that gets him to worrying, such as doing a 100-day job in 60 days, he comes right to me or to the officer in charge, and says you made a mistake here. You must have made an error.

Mr. KATZ. Except for the contractor from Congressman Furcolo's district who didn't know his way around Navy contracts. Otherwise he will come in and say that we should allow more time.

Mr. FURCOLO. He was not from my district.

Admiral JELLEY. I concur with Mr. Katz' statement that there is always a contingency in the bid that would vary by a minor amount except in case of an unrealistic completion date, but it is always in there.

Mr. KATZ. I might add one thing; competition depresses the contingency figure. We have had 15 bids on one contract and 16 on the other. A few more like that and those fellows will be leaving out all contingencies on bids, to get the contract.

Mr. DONNELLY. One of the benefits of competitive bidding.

Admiral JELLEY. That results in too many bids, in my opinion.

Mr. DONNELLY. It shows they are hungry.

Admiral JELLEY. I would rather get about eight bids on a job on an opening. I think you get a fairer price, both ways. When you have 16 bids, one man usually has shaved his estimates too closely in his eagerness to get work. Then we have trouble in getting a good job.

PURPOSE OF LIQUIDATED DAMAGE PROVISIONS

Mr. FURCOLO. I would like to ask a question there, if I might. I do not know much about this procedure so the question may be a little illogical. But as near as I can make out when you have the liquidated damages clause, the contractors apparently all increase their bid by the amount of that clause in order to protect themselves. If that is so, the government does not lose if the clause is invoked. However, in most cases it is not invoked for one reason or another. So, the Government is paying for it when it is invoked. When it is not, the Government is stuck even more because they have paid for an item that was not given to them.

Admiral JELLEY. In some cases, I would not go along with Mr. Donnelly's statement.

Mr. DONNELLY. I merely asked the question; I didn't mean to make a statement.

Mr. FURCOLO. Apparently, from what we gathered the other day, as a practical matter the Navy does not enforce the penalty anyway. Is there any reason why you have it? I suppose it is in there to compel the contractor to keep going. However, if you added up the damage clauses, you might find that if all these contractors had put them in, which adds to the contract price, at the end of a year's time the Navy has spent several hundred thousand dollars extra because they put them in the bid. Would you do better if you forget about liquidated damages but said, "Well, we are going to pay a little bonus for the fellow who gets through on time." It might require a change in the law. It might not be a good policy even if you had authority. I don't know, I'm only asking your opinion.

Mr. KATZ. I don't think we could legally pay the bonus and get by the Comptroller General's office. Offhand, I don't think we could pay the bonus.

Mr. Patterson and the Chief and I have bounced back and forth the question of whether to eliminate liquidated damages completely on construction contracts and several times we have come pretty close to saying that we will do it, but when we talk to the responsible contractors, the blue ribbon fellows that you mentioned, they are pretty well agreed that it has a psychological value. They say to us, "Keep the liquidated damages but don't make them too high, and don't make the time unrealistic."

Mr. FURCOLO. Apparently, if I am doing my job, I am getting that much extra. If I put in $50,000 on the strength of penalty——

Mr. KATZ. $5,000 is closer to what you might get.

Mr. FURCOLO. Whatever it might be. I was using an arbitrary figure. If I know I am going to complete the thing, and if I do not complete it you folks are not going to penalize me.

Mr. KATZ. If you lose your bid by $6,000, you will not put that item in your bid next time.

Mr. PATTERSON. I might point out here that in case we have left the wrong impression, which perhaps we have, that over the years you will enforce liquidated damages clause in quite a few cases, usually not for tremendous amounts, but it is not unusual to collect quite a few thousands of dollars. We do enforce the liquidated damages clause. We collect quite a bit of money on that.

Mr. FURCOLO. Sort of hanging over their heads.

Mr. PATTERSON. It is desirable to have both completion dates and liquidated damages. We do not mean to say that we do not enforce our completion dates. Nor do we mean to imply that we always grant time extensions, because we do not. We find many cases where we have to turn them down, and a great many where they are turned down on the first go-around because they cannot support their position.

Now, along that line also, the Comptroller General, under present law, can himself now waive liquidated damages and grant time extensions. Furthermore, under our form of contract, and in the long run, we can enforce very few assessments of liquidated damages in the Court of Claims if the contractor wants to take it that far, because it has to be a fairly liberal clause to even live in a contract. I served for a couple of years as a Navy representative on a subcommittee rewriting the standard form of Government construction contract. We fought that thing for several months as to what we should put in there. But we all agreed in the long run that it should be in there. At least, as you mentioned, sort of holding the sword over his head; to keep the sharpshooter fairly honest. The honest man does not need it but you cannot always rely on getting an honest man.

(NOTE.—The standard form Navy construction contract is printed in the appendix at p. 328.)

Mr. KATZ. I did not intend to go this far into this, but as long as we have gone into the matter to this extent, you might note that if we do not have liquidated damages—this is especially for the lawyers on the other side of the table—the Comptroller General might come

around and say that we must sue the contractor for actual damages. The worst headache I know would be to sue for actual damages on a Government construction job. The Department of Justice would never talk to us again if we gave them one case like that.

Mr. PATTERSON. I know of only one case in 15 years where you could prove actual damages.

METHOD OF FIXING AMOUNT OF LIQUIDATED DAMAGES

Mr. RILEY. How do you arrive at the amount of liquidated damages? I notice here a contract for $2,700,000, one for $3,300,000, one for $6,500,000 in round numbers, all with the same penalty.

Mr. KATZ. We have a set of instructions. The Air Force Inspector General is not the only one who issues this kind of information to the field. We have a set of basic directions to the field on how to run construction contracts. One of the things we have in there is a scale telling them what liquidated damages to set up. It is not a rule by any means. It is just a guide to them.

Admiral JELLEY. It is computed from a formula using the estimated cost, not the actual bid. So if the liquidated damages are about the same, it shows that the original estimate was about the same.

Mr. RILEY. In this particular instance.

Admiral JELLEY. So if the contract is larger and the liquidated damages the same, the estimate was not accurate.

As a matter of fact, the contractor who has been on our work long enough can almost tell from liquidated damages how much we think the job is worth. Many contractors do not want to bother with a job unless they know its approximate value, and they will ask, how much money do you have available, just to save the time of figuring the job. If they look at the liquidated damages specified, they can almost determine what we think it will cost.

Mr. DONNELLY. The chairman is pointing to the first two contracts for $1,200 liquidated damages per day and then dropping down to the first one under the Fourth Naval District, a contract of $6,580,000, approximately double, and you have the same item, $1,200 worth of liquidated damages.

Mr. KATZ. Sometimes you vary that. I got a call last week and the officer pointed out that he thought the scale of liquidated damages was kind of high. This was for an athletic facility of some kind. He felt that the Government was not going to be hurt if it was delayed a month. I agreed and suggested he cut it to two-thirds, which he did. He is not bound by these figures. He uses common sense on them.

Mr. DONNELLY. You are speaking of the Contract Administration Manual figures. You are not speaking about these charts we are looking at?

Mr. KATZ. That is correct.

COMPLETION DATE HAS NO BEARING ON AMOUNT OF LIQUIDATED DAMAGES

Mr. DONNELLY. Now, throughout this chart under column 11, we have the variations in liquidated damages, and in many cases they appear to be substantial. I think the highest one is $1,800 a day on a contract of $6,425,000. Admiral, maybe you have answered this, but

let me ask it again. Is the amount of liquidated damages, the highness of the penalty, in any way established by the completion dates that the Bureau desires?

Admiral JELLEY. No. As I recall the manual, the size of the damages is in direct ratio to the estimated cost of the work. I will not deny that as Mr. Katz indicated, this is a guide. I would not deny some individual officer may have gotten the bright idea that, by doubling the liquidated damages, he is going to expedite the work. After all, we have many people preparing plans and specifications. But from my knowledge of the officers concerned in this work, I doubt if we have ever had a case like that.

Mr. DONNELLY. Let us look at that contract, the first one under Fourth Naval District. That is a $6,580,000 contract. And over in column 13, we have a note which says: "January 29, 1950, first bid date. Postponed to April 25, 1950. Postponed indefinitely due to extensive revisions in plans and specifications. Readvertised March 21, 1951." (That was about 11 months later.) Then the bid date of April 15, 1951 was postponed to April 25, 1951, due to issuance of three addenda. Then in column 10 we have the number of days allowed for completion, 450 days. And the liquidated damage penalty is $1,200. If time had been saved in the matter of drawing the plans and specifications and advertising that job, would the contractor not have been allowed more than 450 days?

Admiral JELLEY. May this be off the record?

(Discussion off the record.)

TIME ALLOWED CONTRACTORS TO SUBMIT BIDS

Mr. DONNELLY. In column 5 on this chart, for competitive bids, we have the number of days in the bid period, and there does not seem to be too much variation from the round figure of 30. On the other hand, we find two-thirds of the way down the page, an 18-day period; and on the next page, a 15-day period. And on the third page there is a 10-day period for $4,700,000 contract. And then we find a 13-day bid period. And there are other figures which are considerably lower than the 30 days.

Admiral, is there any ideal bid period that you follow?

Admiral JELLEY. It depends largely on the type of work, Mr. Donnelly. Runway work, and I believe in the examples you have noted they were all runway work, is usually bid on a unit-price basis, so much per yard of this and so much per ton of that. You can usually allow a week or 2 weeks and the contractor has time to figure his bid. He is dealing in big units, big quantities that are easily taken off—a million yards of sand, half a million yards of gravel, and things like that.

Mr. DONNELLY. Not too many unit prices.

Admiral JELLEY. No; we almost always get them on one sheet of paper. A building of some complexity, however, normally would take 30 days. Subcontractors have to go through the plans and take off the electrical work and plumbing work and sheet-metal work and so forth. If we put out a building at less than 30 days, except under some emergency, we would start getting word from the contractor that we have not given him enough time: "I am not getting subbids; can't you postpone opening a week?" If any rule can be

given, I would say the simple work, 7 to 10 days; work of moderate complexity, 4 weeks; work of extreme complexity that might involve turbines and boilers where the manufacturer has to give you a special price it may be as long as 6 weeks.

BID PERIOD REDUCED DUE TO PEAKING OF OBLIGATIONS IN MAY AND JUNE

Mr. DONNELLY. This bid period also relates to the peaking of obligation of funds, does it not, that is, May and June?

Admiral JELLEY. Undoubtedly last June we reduced the bid periods. You recall that I said on our public works projects, I gave them authority to extend that bid period even though they went into July because I felt that deadline was an artificial one, and that I would not be criticized for not obligating all the money when I was acting prudently.

DIFFICULTY IN GETTING BIDS FROM SUBCONTRACTORS WHEN BIDDING PERIOD IS SHORTENED

Mr. DONNELLY. Now, a little bit ago you commented on the difficulty that contractors might have in getting bids from their own subcontractors in submitting a bid for the entire job. Now, if the Navy and the Air Force and the Army obligate as we have seen on these charts approximately half a billion dollars for construction work in 1 month, would it not follow that the contractors who are bidding probably did not have the time to get good sound bids from the subcontractors and as a result their own bids were higher and the contract awards were higher.

Admiral JELLEY. That is possible. You must remember, however, that that half billion dollars was spread country-wide. The effect you foresee would occur only if the market in one area was overloaded. That might be overloaded by other work than military work. The figures I gave you were based on, you might say, an average workload. If the subcontractors did not have much work on hand they could undoubtedly give you prices in a week instead of 3 weeks. If they had a lot of work on hand, they might refuse to give you a price at all or would ask for more time. So, really, the length of time you allow to bid has some relation to the amount of work in a particular area that the contractor or subcontractor operates in.

LIAISON WITH ARMY ENGINEERS AND BUREAU OF RECLAMATION ON BID OPENING DATES

We do maintain liaison with the Army engineers in the field to try to insure that we do not ask for bids in the same day or the same week, to spread the workload of contractors' bidding. I suppose at least four times during the last year I reminded our district public works officers to check with the Army engineers and see how they were making out and see what their experience was because, after all, you can exchange experience. But when you have an artificial peak such as you have in June, there is no doubt that cases may have occurred where bids on sizable projects in the same locality were opened on the same day or within a day or two of each other.

Mr. PATTERSON. Admiral, I believe we exchange reports with the Army engineers and the Bureau of Reclamation, a regular form report advising other agencies of bid opening dates for jobs over a million dollars. That is a routine procedure, so each knows what the other agency is doing and we do not request bids on the same date.

Admiral JELLEY. As a matter of fact, we had a request this last week that three jobs were being bid in New England, one in Rhode Island and two in Masssachusetts. They were Army and Navy jobs and they were bunched up too much, and the contractors complained that they would only be able to bid on one or two instead of all three of them. So we postponed one of our bid openings a week because I knew we would get good prices if we spread the dates a little. These bid opening dates had been cleared, yet they squeezed it too much. Boston contractors will go down and bid in Providence, R. I.—this was at Quonset Point—or a Springfield contractor would go down to Quonset Point: the distances are not too far. I do not think they recognized that a Rhode Island job would affect a Massachusetts job and vice versa because the dates had been cleared in this matter. Contractors still complained, however, and we changed our date to meet their complaint.

PEAKING OF CONTRACT AWARDS MAY CAUSE HIGHER BIDS

Mr. DONNELLY. Now, in the document which was placed in the record previously—that is information submitted dated September 28, 1951, by the Sixth Naval District—we noted this sentence:

> During the time of extreme rush and the handling of numerous projects, which time is the months of May and June of any fiscal year, cost estimates that are prepared are not as complete and full as those made during times when the press of work is less.

Now, would it follow that bids prepared by contractors in that period of rush of the obligation of funds, May and June, are not as complete in that they are not as low as they would be in other months?

Admiral JELLEY. I would say, if the contractor is being pressured to get a bid in, he will play safe and bid on the high side to make sure that he had covered all the contingencies which he had not had time to examine carefully.

There are two reasons why I do not like to see a peak in June. One is that our people are hurried in preparing plans and specifications, and, second, the contractors hurry. He is liable to make mistakes which are going to lead to trouble in administering the contract; or only two or three contractors will bid. The others will say, "I am going to get some of these other jobs anyway. Why spend time on this one?" Whenever you have one or two bidders, your average price is going to run up. As you say, the contractor undoubtedly will play it safe.

Mr. PATTERSON. Admiral, don't you think in the majority of cases, though, that they cannot be too careless because there is maybe one man bidding that job who has plenty of time and if the others get too far off they will not have a chance of getting the job?

Admiral JELLEY. What I had in mind was a figure on the order of 5 percent. You could expect bids 5 percent higher in the rush period of which you speak. I would not expect them to be 50 percent higher or anything like that because the contractor never knows

whether he is going to be the only bidder or not. Another thing might happen once in a long while: a contractor will sometimes put in what is called a complimentary bid. Here the Navy was inviting bids for a particular job which the contractor might not want. However, he wants to be invited the next time some work comes along, so he takes a quick look at the job and says, "It looks like $10,000, but I will put in a $20,000 bid and be safe," If he is the only bidder, he has a $10,000 job for $20,000. Those windfalls are very, very rare.

Mr. DONNELLY. Admiral, you mentioned the possible figure of 5 percent as the increased bid on prices. If that were applied to the half million dollars——

Admiral JELLEY. I did not mean 5 percent on the average. I meant on an individual contract. On half a billion dollars it would be less.

Mr. PATTERSON. Your competition takes care of that. Out of five bidders, there might be three bidders with a fast bid. There may be two sharpshooters who really want the job.

Mr. KATZ. We have had some that bid too low.

Mr. PATTERSON. Any increase or decrease would be compensated in the long run, and it would be impossible to arrive at any figure that we have spent more than we actually should. The majority of contractors are used to being upset and hurried.

Admiral JELLEY. I do not think we could even guess at a figure.

Mr. DONNELLY. I have concluded the development of the three types of contracts. Do the members have any questions?

AUTHORITY TO SELECT ANY ONE OF THE THREE TYPES OF CONTRACTS

Mr. DAVIS. Before we close shop for the night, can we get this one thing in one place in the record? Among these three types of contracts, is this true: that wherever you are authorized to use a cost-plus-a-fixed-fee contract you would also be authorized to use a negotiated or a competitive-bid contract?

Admiral JELLEY. Yes, sir.

Mr. DAVIS. And it is also true—is it?—that wherever you are authorized to use a negotiated contract you are authorized to use a competitive-bid contract?

Admiral JELLEY. Yes, sir.

LIMITATIONS ON USE OF NEGOTIATED AND CPFF CONTRACTS

Mr. DAVIS. What are the limitations on your use of the negotiated and the cost-plus-fixed-fee?

Admiral JELLEY. At present, we are not allowed to use a cost-plus-fixed-fee contract for 1952 public-works funds unless we justify it to the Secretary of Defense. That was included in the appropriation act. For 1951 money, we are restricted only by the Armed Services Procurement Act.

Mr. KATZ. We must clear with the Office of Naval Material.

Admiral JELLEY. I would say that is the only legal limitation at present. We do have various administrative limitations. We have to clear any form of negotiated contract over $300,000 with the Office of Naval Material in the Navy. As far as Yards and Docks policy is concerned, we have restricted the use of negotiated con-

struction contracts of more than $2,000 to those contracts approved by the Chief or Deputy Chief of Bureau in the Chief's absence.

Mr. DAVIS. However, that limitation would not apply to you. You told us that with respect to the cost-plus-fixed-fee you must get approval of the Secretary of Defense.

Admiral JELLEY. Yes.

Mr. DAVIS. Now, what limitations are placed on you with respect to negotiated contracts?

Admiral JELLEY. Just that I have to get approval from the Office of Naval Material for negotiated contracts in excess of $300,000. If we had a $295,000 project, I could pick you out and say "Go ahead and do the work." But, if it was $305,000, I would have to go to the Office of Naval Material as to what the job was and why it should be negotiated, who we propose to negotiate it with, and how we propose to negotiate it, and our detailed price break-down.

Mr. DAVIS. Which is entirely by regulations within the Navy Department?

Admiral JELLEY. Administrative regulation.

Mr. DAVIS. As far as the limitation on cost-plus-fixed-fee that you gave us, is that only by regulation within the Defense Department?

Admiral JELLEY. That is by inclusion in the last public-works appropriation act.

Mr. KATZ. The Armed Services Procurement Act states that, in order to use a cost-plus-fixed-fee contract, you must establish two things. I do not remember them verbatim, but one is that it is likely to cost less than doing it any other way; and, two, that it is not feasible or practicable to do it any other way.

Mr. PATTERSON. We will read that in the record tomorrow.

(Pertinent excerpts from the Armed Services Procurement Act of 1947 were subsequently indicated by the Navy. They are as follows:)

Excerpts from Armed Services Procurement Act of 1947 (Public Law 413, 80th Cong., act of Feb. 19, 1948) relating to use of negotiated and cost-plus-fixed-fee contracts by Bureau of Yards and Docks and Corps of Engineers (as well as other governmental agencies):

"SEC. 2 (e) This section shall not be construed to (A) authorize the erection, repair, or furnishing of any public building or public improvement, but such authorization shall be required in the same manner as heretofore, or (B) permit any contract for the construction or repair of buildings, roads, sidewalks, sewers, mains, or similar items to be negotiated without advertising as required by section 3, unless such contract is to be performed outside the continental United States or unless negotiation of such contract is authorized by the provisions of paragraph (1), (2), (3), (10), (11), (12), or (15) of subsection (c) of this section.

* * * * * * *

"SEC. 2 (c). All purchases and contracts for supplies and services shall be made by advertising, as provided in section 3, except that such purchases and contracts may be negotiated by the agency head without advertising if—

"(1) determined to be necessary in the public interest during the period of a national emergency declared by the President or by the Congress;

"(2) the public exigency will not admit of the delay incident to advertising;

"(3) the aggregate amount involved does not exceed $1,000;

* * * * * * *

"(10) for supplies or services for which it is impracticable to secure competition;

"(11) the agency head determines that the purchase or contract is for experimental, developmental, or research work, or for the manufacture or furnishing of supplies for experimentation, development, research, or test: *Provided*, That beginning six months after the effective date of this Act and at the end of each six-month period thereafter, there shall be furnished to the Congress a report setting forth the name of each contractor with whom a contract has been entered into pursuant to this subsection (11) since the

date of the last such report, the amount of the contract, and, with due consideration given to the national security, a description of the work required to be performed thereunder;

"(12) for supplies or services as to which the agency head determines that the character, ingredients, or components thereof are such that the purchase or contract should not be publicly disclosed;

* * * * * * *

"(15) for supplies or services as to which the agency head determines that the bid prices after advertising therefor are not reasonable or have not been independently arrived at in open competition: *Provided*, That no negotiated purchase or contract may be entered into under this paragraph after the rejection of all bids received unless (A) notification of the intention to negotiate and reasonable opportunity to negotiate shall have been given by the agency head to each responsible bidder, (B) the negotiated price is lower than the lowest rejected bid price of a responsible bidder, as determined by the agency head, and (C) such negotiated price is the lowest negotiated price offered by any responsible supplier;

* * * * * * *

"SEC. 4. (a) Except as provided in subsection (b) of this section, contracts negotiated pursuant to section 2 (c) may be of any type which in the opinion of the agency head will promote the best interests of the Government. Every contract negotiated pursuant to section 2 (c) shall contain a suitable warranty, as determined by the agency head, by the contractor that no person or selling agency has been employed or retained to solicit or secure such contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the contractor for the purpose of securing business, for the breach or violation of which warranty the Government shall have the right to annul such contract without liability or in its discretion to deduct from the contract price or consideration the full amount of such commission, percentage, brokerage, or contingent fee.

"(b) The cost-plus-a-percentage-of-cost system of contracting shall not be used, and in the case of a cost-plus-a-fixed-fee contract the fee shall not exceed 10 per centum of the estimated cost of the contract, exclusive of the fee, as determined by the agency head at the time of entering into such contract (except that a fee not in excess of 15 per centum of such estimated cost is authorized in any such contract for experimental, developmental, or research work and that a fee inclusive of the contractor's costs and not in excess of 6 per centum of the estimated cost, exclusive of fees, as determined by the agency head at the time of entering into the contract, of the project to which such fee is applicable is authorized in contracts for architectural or engineering services relating to any public works or utility project). Neither a cost nor a cost-plus-a-fixed-fee contract nor an incentive-type contract shall be used unless the agency head determines that such method of contracting is likely to be less costly than other methods or that it is impractical to secure supplies or services of the kind or quality required without the use of a cost or cost-plus-a-fixed-fee contract or an incentive-type contract. All cost and cost-plus-a-fixed-fee contracts shall provide for advance notification by the contractor to the procuring agency of any subcontract thereunder on a cost-plus-a-fixed-fee basis and of any fixed-price subcontract or purchase order which exceeds in dollar amount either $25,000 or 5 per centum of the total estimated cost of the prime contract; and a procuring agency, through any authorized representative thereof, shall have the right to inspect the plants and to audit the books and records of any prime contractor or subcontractor engaged in the performance of a cost or cost-plus-a-fixed-fee contract.

* * * * * * *

"SEC. 7. (c) Each determination or decision required by paragraphs (11), (12), (13), (14), (15), or (16) of section 2 (c), by section 4 or by section 5 (a) shall be based upon written findings made by the official making such determination, which findings shall be final and shall be available within the agency for a period of at least six years following the date of the determination. A copy of the findings shall be submitted to the General Accounting Office with the contract.

"(d) In any case where any purchase or contract is negotiated pursuant to the provisions of section 2 (c) except in a case covered by paragraphs (2), (3), (4), (5) or (6) thereof, the data with respect to the negotiation shall be preserved in the files of the agency for a period of six years following final payment on such contract."

Further curbs were placed on the use of cost-plus-fixed-fee contracts, and on the major reason for the use of this type of contract—accelerating construction time—by the Second Supplemental Appropriation Act, 1952 (Public Law 254, 82d Cong.), which provided in sections 602 and 603 as follows:

"SEC. 602. None of the funds appropriated in this chapter shall be expended for payments under a cost-plus-a-fixed-fee contract for work where cost estimates exceed $25,000 to be performed within the continental United States without the specific approval in writing of the Secretary of Defense setting forth the reasons therefor.

"SEC. 603. None of the funds appropriated in this chapter shall be expended for additional costs involved in expediting construction: *Provided*, That the Secretary of Defense, or his designee for the purpose, shall establish a reasonable completion date for each project, taking into consideration the type and location of the project, the climatic and seasonal conditions affecting the construction and the application of economical construction practices."

Mr. KATZ. The Armed Services Procurement Act says that each Department shall set up such rules as it thinks best for clearing such contracts. It does not set up the machinery. Then the armed services adopted the Armed Services Procurement Regulation, which implements the act and sets up the machinery for clearing those contracts.

Mr. PATTERSON. In a sense, that was abrogated by last year's appropriation which modified the procedure so that all contracts over $25,000 had to be cleared by the respective Secretary.

Mr. KATZ. That abrogates the previous machinery. The new approval is a more formal approval to eliminate any possibilities of any shenanigans in the use of that type of contract. The CPFF contract has its place; Congress has recognized that, and so has the Comptroller General. The Comptroller General approved the Armed Services Procurement Act. That act provides that all contracts shall be awarded as a result of advertising and competitive bidding but sets up exceptions for special cases.

There are 17 such exceptions of which 8 or 9 might apply to construction. The Armed Services Procurement Act says you may negotiate only in these special cases and the machinery again is set up by the Armed Services Procurement Regulation. However, in case of the declaration of a national emergency, we may negotiate anything we think proper. Well, up until December 1950 that was merely academic. Since then, had the Navy wished to, theoretically we could have negotiated every contract we entered into. As you can see by the figures which we submitted to you, we have not. We have told our own field that we do not intend to use that general blanket immunity as a basis of negotiation. But it is one of the exceptions in the act.

Mr. PATTERSON. It is a partial reenactment of the First War Powers Act we now have available, and under the present emergency the services can use it if they can get their higher authority to permit them to do it. We have not as a matter of policy. We can award most of the work as a result of competitive bidding which is the best way to do.

Mr. DAVIS. As of today, though, the Navy Department as such has a free hand except for such strings as it may tie itself with in letting contracts by negotiating.

Mr. KATZ. That is right, because the law sets up restrictions but

we have freedom to interpret those restrictions. We make the interpretation in most cases.

Mr. PATTERSON. Put it this way: Armed Services Procurement regulation is a joint proposition put out by all three services and applies to all three services. So you do have a Defense Department ruling on it. It is not entirely Navy.

THURSDAY, FEBRUARY 21, 1952.

Mr. FURCOLO. The committee will please come to order. You will proceed, Mr. Donnelly, with your inquiry.

Mr. KATZ. Before you start, you asked yesterday about the change orders at Oceana. I told you we never allowed over 6 percent profit to the prime contractor. Mr. Glenn has checked the figures for Oceana and I would like to note for the record that on that job we only allowed 3 percent profit and no overhead to the prime contractor.

Admiral JELLEY. That was the case where they had a lump-sum subcontract and the prime contractors' costs were not as heavy as they would be in a normal subcontract.

Mr. KATZ. That is correct.

Mr. DONNELLY. Congressman Davis was asking questions yesterday on the types of contracts; do you have further questions?

Mr. DAVIS. I believe I do, yes. I think there were a few on some of the matters that we were going over. Do you want us to clean those up first?

Mr. DONNELLY. This is an excellent place to do it.

Mr. DAVIS. Off the record.

(Discussion off the record.)

CONTROL OF OVERTIME ON CPFF CONTRACTS

Mr. DAVIS. In your cost-plus-fixed-fee type of contract, what protection do you have against Saturday, Sunday, and holiday work as a money-making substitute for work during what we would consider the ordinary work days?

Admiral JELLEY. Our protection is the presence on the job of an experienced construction engineer, an officer of the Civil Engineer Corps of the Navy, who is responsible for the efficiency and business-like conduct of the cost-plus-fixed-fee contractor. He would have to approve any extraordinary expenditures in advance and I would consider putting the whole force on overtime on Saturdays or Sundays or holidays such an expenditure.

Of course, it is frequently necessary to break some bottleneck and bring in a gang of maybe half a dozen men to accomplish something over the week end that would otherwise hold the whole job up. But even in that case, our officer would have to approve bringing those men in, in advance. Saturday work is quite common. That is, a 6-day workweek instead of a 5-day workweek and jobs are often operated on that basis. However, a 7-day workweek or work on holidays is very unusual and certainly would be scrutinized by our resident officer.

Mr. KATZ. To put the whole force on a 7-day week, he would have to come into the bureau and get authority from us.

Mr. DAVIS. I had in mind more individual cases, or small groups. The contractor himself, of course, would have every incentive to watch that carefully, if it were on a negotiated or competitive basis, but where it is on a cost-plus-fixed-fee basis, he does not have the incentive to watch that as he otherwise would. Is your supervisory officer in a position to check on individual cases?

Admiral JELLEY. He would have to approve them in advance. So that if they brought even one individual in on a day when premium wages had to be paid, the contractor would have to check and secure at least verbal approval in advance, with written approval following along later.

(The provision in the Navy Contract Administration Manual on this point is as follows:)

1-18. *Work outside regular hours.*—If the contractor desires to carry on work outside the regular hours or on Sundays or holidays, he may submit application to the officer in charge but shall allow ample time to enable satisfactory arrangements to be made by the Government for inspecting the work in progress. At night, he shall light the different parts of the work in an approved manner.

No excessive payments could be made without prior knowledge of our resident officer who is an experienced construction engineer. I would like to add that if the contractor would bring in men without that approval, reimbursement to the contractor for their wages would be disapproved and it would come out of his own pocket.

Our standard form of cost-plus-fixed-fee contract requires approval of our resident officer for all expenditures, both material and labor. Any expenditure has to be approved before he can be reimbursed for it. And the prudent contractor, and I think that when we do select a contractor for one of these jobs, we do pick a man who is prudent, if there is any question in his mind as to whether or not any expenditure is questionable, he always comes to our officer and gets an advance opinion.

NAVY SUPERVISORY PERSONNEL ON CPFF CONTRACTS

Mr. DAVIS. In connection with some of these projects, there was mentioned the civil-service group. Am I correct in understanding that this group is not included in what you would refer to as nonmanual, or administrative personnel, in these tables and charts that we have had in connection with several projects?

Admiral JELLEY. In the particular analyses that were furnished the committee in the last day or two, they were not included. For a complete analysis of the job, the civil service employees should be included.

Those are employees of the officer in charge of construction who do the auditing, any inspecting that is necessary, and in general, assist the officer in charge of construction to protect the Government's interest. The contractor has no control over them whatsoever; they are in effect out watchdogs.

Mr. KATZ. Presumably they would be acting on more than one contract; not that particular contract, but every contract in the district.

Admiral JELLEY. I was thinking more of the civil-service employees who are actually stationed at the site of the cost-plus-fixed-fee contract, and who are working full time on that contract, although as

Mr. Katz says, it is perfectly possible that if there were other contracts at the same station, the same naval activity, they might have duties in overseeing other contracts, too.

In some of the instances where we have given analyses, it could be perfectly possible that they were doing other contract work in addition to the cost-plus-fixed-fee work.

Mr. KATZ. I will give you an example: Our civil-service auditor on the Trenton job also goes up to New York City on a couple of jobs that we have up there. He does not work full time on the Trenton job. If we charged his full time to administrative expenses of the Trenton job, that would show a burden that actually is not on that job. He audits some five or six jobs besides Trenton.

Admiral JELLEY. That is what you would expect of an experienced administrator, keeping his men working all the time. If there is not a full-time job on the cost-plus-fixed-fee contract and he needs men on one of the lump-sum contracts adjacent, he would use a man that way.

Mr. KATZ. That is right.

Admiral JELLEY. I might say that our civil-service auditors that check these jobs, on the whole, have been doing this type of work since prior to World War II. As these new cost-plus-fixed-fee jobs developed, about a year ago, we went out and found people who had been doing that work during World War II or had been doing work for the Army or Navy cost-inspection services. So they are not greenhorns to this type of operation. They have learned by experience to look for things like Sunday work and holiday work because what we have seen in the papers over the last few months is nothing new. It undoubtedly was happening years ago. When you have experienced men, they soon learn what should be taken care of by routine auditing and what to check on immediately. You can soon tell if something does not look exactly right in the way of job operations.

Off the record.

(Discussion off the record.)

PRECAUTIONS AGAINST PADDED PAYROLLS

Mr. FURCOLO. Admiral, there has been a general feeling that on many jobs, the contractors are apt to pad payrolls to some extent. Now, do you have any way of comparing the type of payroll they will have on a job being done for the Government, with, for example, the type of payroll they have on a job that is being done for some private concern? I realize it might be extremely difficult if not impossible, but do you get what I am driving at?

Admiral JELLEY. Yes. First as to private work, there are many, many different means of keeping the payrolls. They have to have some uniformity because of the requirements of old-age benefits, internal revenue, and that kind of thing, but the actual mechanics for checking the man in and out vary with the job and often with the size of the job. On a small job 1 timekeeper can look after 50 men and make darn sure that everyone of the 50 is on the job all the time. But I would like to explain how we do it. During World War I, there was a lot of talk about how a fellow was working on three jobs at once and drawing down three paychecks under three different names and things like that. We put in a system, back in—when we started fixing cost-

plus-fixed-fee contracts—back in 1939 and 1940, of making a check. We checked the man in and out with brass tags. In other words, he comes in the entrance and he has been assigned number 155. Well, he picks brass tag 155 off the board, he has to keep that all day long. In the evening he comes back and puts the tag back. Well, at 5 minutes after starting time the timekeeper comes along and makes a note of what tags are still on the board. In addition, and in the same way in the evening, he makes a check to see if any of the tags that were taken out did not get back.

In addition, every timekeeper is required to see the man on the job at least once during the day. He has to circulate around and he has got to check through his book until he has checked off each tag number by actually seeing the man at work on the job. That system is used for the payroll. The payroll has to be done fast. The man is usually paid on a Wednesday night for his preceding week's work. That is a matter of local custom and union working rules and so on. As a check, we also have the man's supervisor, the foreman who has maybe 12 to 20 men under his supervision. He keeps a separate record in a time book, with the man's name on it and he marks in that time book, Jones was pouring concrete, Smith was shoveling dirt. That is turned in daily to the field office. Now, they have to balance up those two expenditures, that is the expenditure on the brass system for paying the man, and the expenditure under the foreman's report, as a check. If they do not balance, they keep on working until they find out where the mistake is. We use the brass tag system to make up the payroll, and the foreman's time card to do the cost accounting; to find out how much it cost to pour concrete per yard or how much it cost to pave streets and so on. But by making those two recapitulations check, I think we have covered pretty well the possibility of one man being paid under two different names. He would have to be pretty smart to get away with the brass tag and the time checker checking him once a day and also the foreman. It would have to be a matter of fraud between the foreman and the man or the timekeeper and the man, and there are just too many people involved to keep it quiet very long.

CHECK ON OFFICE WORKERS ON CPFF CONTRACTS

Mr. FURCOLO. Let me refer for a minute, if I may, not to workmen actually out on the job, but rather to personnel in the office. For example, you may find several men with fairly high salaries doing the administrative work, perhaps doing expediting work or some sort of supervisory work. At least on some jobs, there have been illustrations given of where there were very large numbers of people doing that sort of work at very high salaries. Is there any way at all where a comparable job for private industry may be used as a yardstick? For example, if you have a job of $5,000,000, could you find out what personnel your contractor had on similar jobs for private industry? Is that possible? Are your able to determine what the contractor had in the way of what I might call office managers or vice presidents, and so on, on some comparable private job? I don't know whether it's a sizable item or not, it might not be, but I do know there have been illustrations given of where they overlooked conditions in the

office and, if they did check, the man would be sitting telephoning or doing some sort of work.

Admiral JELLEY. It is very difficult to check with a private operation because contractors are notoriously secretive about their costs. He doesn't want the other contractor, his competitor, to know how he is operating and how he does business. The business situation you speak of, though, is one of actual concern to the officer in charge of construction.

Our accounting system is made up to show the people you speak of in an overhead status. That is part of the overhead. We were continually checking, during the war, one contract against another as to how the overhead was running. We could not compare it with private industry, but we were comparing with each other.

Now, the point that Mr. Donnelly has brought up about this ratio of nonmanual to manual, seems to me a much more convenient way of discovering a condition, as you apprehend might happen. Otherwise you have to say that $50,000 a month is being spent on expediting out of a $1,000,000 a month total expenditure. On one job you might have 20 men working at low salary, and at another you might have 10 men working at a high salary. In my opinion the essential point in making that check is not the dollar so much because wage rates are pretty stable in any area, it is the number of men doing the work.

If I were inspecting a cost-plus-fixed-fee job and was told that the office workers were 10 percent of field workers, I would ask, how are they broken down? How many are timekeepers, how many are engineers, and how many clerks and typists? I think before long I would be able to say, you have a lot of people expediting, none of the other jobs have them. Once again it is the responsibility of the officer in charge of construction to see whether any one part of the job is being done too well, perhaps overloaded, and so on.

Mr. KATZ. Right at the beginning of the job, the officer in charge of construction asks for an operations chart of the office force; one of those things with boxes and lines running around. If you have a general manager in there, the next question is how much salary do you propose to pay him. We have to know that in advance. Until recently the top salary we allowed was $9,000. We have now upped it to $12,000 for one or two men on the job, no more than that. We have cases where a contractor was paying a man $25,000 and we only reimbursed him $12,000. The contractor's chart should show his general superintendent, foreman, office manager, chief accountant, and so forth. And the officer in charge of construction will say, "All right; you want to put on three bookkeepers, you want to pay them so much. That is all right by me." Then, if the contractor wants to put a fourth one on, he comes to the officer in charge of construction and asks approval. As the chief mentioned, we have a comparison with our previous jobs as to whether it is being overstaffed or not.

Mr. FURCOLO. I get it.

Mr. PATTERSON. I think we could answer that the contractor has no opportunity to pad the payroll. Every man on the payroll must be approved in advance by the officer in charge of construction.

Admiral JELLEY. You get wise to things after a while. I look for relatives. I look for routine small purchases, coming from the same fellow. If I see the same salesman hanging around too much, I would

ask what he is selling, how much business has he gotten? It doesn't take long to learn a few things that you should check on.

Mr. KATZ. We have one extra check since you mentioned that. On a construction job the contractor puts his organization on the site. We pay for no one from his home office unless that person is spending his full time on the work site.

Admiral JELLEY. The operations are all at one site. It may be a square mile, but the office is in one place and usually it is a temporary one-story building, so everybody gets to know everybody else.

SALARIES OF CONTRACTOR'S TOP EXECUTIVES ON CPFF CONTRACTS NOT FULLY REIMBURSED BY GOVERNMENT

Mr. DONNELLY. On that matter that Mr. Katz mentioned of the Navy reimbursing the contractor, for a particular man for say $10,000 and then pays the man out of his own pocket $25,000, that question was before the committee in the hearings in the first supplemental for 1951. The committee members as I recall—I have hearings here—objected to that procedure, feeling that it was not really out of the contractor's pocket, but the Government was paying the excess. The Government was reimbursing the full $25,000 because it came out of the fee.

Mr. KATZ. You have undoubtedly examined our fees. They are as close to microscopic in my mind as they can be, yet that fee is not entirely profit. It is our experience that a fee contains somewhere between 12 and 25 percent of nonreimbursable items as well as the contractor's profit.

Admiral JELLEY. He also has the expense of borrowing money. The fee is not all profit. I think that anywhere from 50 to 60 percent of the fee has to be spent by the contractor in connection with the job, so that his profit might be as much as half of the fee. But the reason they want cost-plus-fixed-fee contracts is the profit is sure. There is not the risk that there is in competitive jobs where he might make a 10-percent profit, but runs the risk of a loss.

Mr. FURCOLO. You do not have any lack of people interested in getting them.

Admiral JELLEY. The prudent contractor balances up his work. If he is doing $50,000,000 worth of work a year, he will plan on doing $25,000,000 on a competitive-bid basis, or a lump-sum basis where he stands a chance to make a good profit and he will try to do the other $25 million on fee basis. Fee contracts are common in industry. The telephone company uses them a lot. The big manufacturing companys use them a lot. They use little different type than ours and they are more liberal in fee. Eight percent is a very common fee in private industry.

Mr. FURCOLO. In my district, it sometimes seems that one third of the people want to be postmasters and another third want, but don't get, contracts.

Mr. PATTERSON. Off the record.

(Discussion off the record.)

Mr. DONNELLY. Now, with respect to this item of the Government on cost-plus-fixed-fee contracts reimbursing the contractors for the salaries of the top men, in the first supplemental hearings for 1951, at page 399 at the bottom, there is considerable attention given that in

colloquies by Congressman Sheppard with Admiral Jelley. And the specific example was one with a cost-plus-fixed-fee. In that case, Admiral Jelley testified that his fee being paid to contractors started out to be 3 percent, 2½ to 3 percent, as stated here, and was down at the time of this hearing, to something less than 2 percent. It was developed in the testimony that one man was being reimbursed $25,000 by the company, the contractor. Not reimbursed but paid, with the Navy reimbursing $12,000. At the end of the colloquy we find this:

Mr. SHEPPARD. Am I to believe at the moment from your conclusions that again this differential between $25,000 and $12,000 does not come out of the total payment for the contract?

Admiral JELLEY. Well, it undoubtedly comes out of the fee, but it is not paid by the Navy in addition to the fee as a reimbursed salary.

Mr. SHEPPARD. Let us say, for example, that the contract is for $1,000,000. Then your payrolls that support the operation on the island speak for themselves insofar as personnel is concerned, and your peak there is $12,000. When it is all done and over with the total profit fee that comes out of it permits the $25,000, or the difference between $12,000 and $25,000?

Admiral JELLEY. That is right.

Mr. SHEPPARD. In reality, so far as the taxpayer is concerned, while you are not paying it in one sense you are ultimately paying it out of the taxpayers' money; to wit $25,000.

Admiral JELLEY. We are paying it out of the fee.

Mr. SHEPPARD. So what it is actually costing you there for a $12,000 man is $25,000?

Admiral JELLEY. Yes.

Mr. SHEPPARD. They are a rather expensive personnel. Do you have to pay that kind of money to executives to handle that type of contract?

And I might pass over some of the statements here, but get down to this:

Mr. SHEPPARD. How many competent engineers today are getting $25,000 a year, just an estimate?

Admiral JELLEY. I would say a very small percentage of them, less than 5 percent, certainly.

I do not know whether that helps us here in considering the matter, but it has had attention before.

Admiral JELLEY. Off the record.

(Discussion off the record.)

CONTROL OF OVERHEAD ON SHUMAKER COST-PLUS-FIXED-FEE CONTRACT

Mr. DONNELLY. On the record, with respect to Shumaker, a cost-plus-fixed-fee contract, I did not think the committee members would go into such detail in this matter of the administrative overhead. And I don't have here the complete file which is rather voluminous. However, in examining it, I found for that cost-plus-fixed-fee contract, the Navy officer in charge of construction had set up a salary scale for all of the white-collar workers, that is all the administrative workers, with one scale for the prime contractors, covering his top men, his project manager and going right down through the engineers, timekeepers, bookkeepers, and the like, and then had set a somewhat lower scale for each of the subcontractors on cost plus fixed fee for that operation.

Admiral JELLEY. I think the point there is, Mr. Donnelly, that all those salaries have to be approved in advance by the officer in charge

of construction. That is the reason they are all spelled out. So that our officer in charge of construction has control over these salary rates at all times.

CONTRACTORS MUST FILE SWORN PAYROLLS WITH NAVY

Mr. DONNELLY. On these matters of checking the payrolls on competitive bid contracts and, I take it, on negotiated contracts, the Government makes progress payments as the work progresses.

Admiral JELLEY. That is right.

Mr. KATZ. Only on contracts over $10,000. A $10,000 contract is generally a one-payment contract.

Mr. DONNELLY. And each progress payment will be regulated by the contract provisions so that normally you get a 90-percent payment for, say a month's work, with a 10-percent retention.

But in making those progress payments the contractor must submit evidence to the officer in charge of construction with respect to performance during that period, must he not?

Admiral JELLEY. I would not say submit evidence. We have a Navy inspector on the job and the Navy inspector actually views the work in the field. As far as material purchases are concerned, the material has to be delivered to the site. If you consider that that is submitting evidence, I think you have a correct view of the matter.

Mr. DONNELLY. The evidence I had in mind is that which prevails in some Government construction contracts. That in order to get a progress payment the contractor must file sworn payrolls, and the Government may also be interested in receipts or vouchers for supplies and other materials and, in some cases, payments to his subcontractors.

Mr. KATZ. We have the first requirement but not the next two. The contractor must submit sworn payrolls but I don't think that we require it for progress payment purposes. It is a Labor Department requirement for the purpose of checking the contractor's compliance with the Davis-Bacon Act and similar labor procedures.

PROGRESS PAYMENTS MADE ON BASIS OF WORK IN PLACE

Admiral JELLEY. To carry Mr. Katz's remarks a little further, we pay on the basis of material in place. In other words, if a man has a thousand cubic yards of concrete in a job and at the beginning of the job we have agreed that it is worth $40 a yard, we pay on the basis of what he has actually poured at $40 a yard which we agreed to in advance. We do not go further into the labor and other costs of the concrete. In addition, if he has delivered to the site of the jobs $1,000 worth of reinforcing steel or $5,000 worth of lumber that we know will go into that job, we could pay him for that, too. But generally we pay for units of completed construction rather than for materials. If the fellow was losing money and we paid on a payroll basis, the first thing you know we would have overpaid him out of proportion to the completeness of the job. We pay according to the rate the job is actually being finished, not in accordance with number of men working on the job and so on. Those payrolls are received and examined for the Davis-Bacon Act as Mr. Katz stated.

Mr. DONNELLY. How periodic do the sworn payrolls come in, what is the period?

Mr. KATZ. Every week, I believe. They may be a week behind time but they come in every week.

Mr. DONNELLY. Then your officer in charge of construction and the auditors for the Navy have a regular running check on the payroll item and that is in turn on the number of employees, both in the field (manual), and in the offices (nonmanual).

Mr. PATTERSON. Admiral Jelley, on payments are we confusing cost-plus-fixed-fee and lump-sum? I think we are talking about cost-plus-fixed-fee.

Admiral JELLEY. No, we are talking about lump-sum.

I would use the payrolls in this special case. If we were about to negotiate a change order with that contractor, to do some more concrete work, I would not go back to the agreed on price for reimbursement. I would use those payrolls together with our daily inspector's report to see what concrete was actually costing to pour.

And then the change order would be computed at so much material, labor, overhead, bond, and so on. But I would use the payroll as a check. If in my opinion it was costing too much to pour concrete I would certainly put up an argument against using that cost on the change order.

Mr. DONNELLY. The premise I stated was competitive which is lump-sum and negotiated which is lump-sum.

GOVERNMENT PAYS A DOUBLE PROFIT WHERE THERE ARE SUBCONTRACTORS

Mr. FURCOLO. Let me ask you right there—I meant to ask you yesterday—I perhaps misunderstood but I understood someone over there yesterday to say that where there are subcontracts, there are usually two profits, one to the subcontractor and one to the prime contractor.

Mr. KATZ. That is right.

Mr. FURCOLO. Then I also understood that some place along the line you people had recommended, and I think the committee staff felt, too, that it was advisable to have as many subcontracts as possible. Do I misunderstand that?

Mr. KATZ. Instead of having one big prime contractor, we could set it up from the beginning as three or four or five smaller prime contracts. Instead of putting the electrical work under the main contract, we could put the electrical work in an independent contract.

LABOR SUPPLY HAS BEARING ON OVERTIME

Mr. DONNELLY. Now on this question of overtime, Congressman Davis mentioned at the outset of this morning hearing, with respect to certain types of mechanics, carpenters, plumbers, steamfitters, bricklayers, and the like, the availability of those in a particular labor market will have a large bearing on the overtime that is paid those men, will it not?

Admiral JELLEY. Yes, in many cases it will.

Mr. DONNELLY. At Norfolk is there an adequate supply of mechanics for the work that is going on at Norfolk?

Admiral JELLEY. I cannot make a definite statement on that. It seems to me within the last 2 or 3 months I have heard a statement

that there is a shortage of plumbers in Norfolk. But I would rather not make a positive answer to that effect.

Mr. DONNELLY. I have a recollection from some of these hearings which I read, last year's hearings, that an attempt was made by the Navy to recruit particular types of mechanics, those that I mentioned, all along the eastern seaboard because a lot of money is being spent in the Norfolk area by the Navy.

Admiral JELLEY. The Navy won't attempt to recruit as the Navy. It would be up to the individual contractors to go out and do their own recruiting.

Now, we would get in touch with the building-trades unions, here in Washington, the international representatives as they are called, and say, "Look here, there is a lot of work down in Norfolk. If you want to pass the word to some of your locals where there are people out of work, they will have a good chance of getting a job if they go to Norfolk." We might do that, but the Navy hasn't set up any kind of a recruiting service or never would, I believe, for lump-sum contractors. It is up to them to get their own labor. A common way of attracting labor to a locality is for a contractor, for example in Norfolk, to send up to New York, which is an unemployment area just now, for construction workers, and say, "We have a job down here in Norfolk and we are working 50 hours a week, and our wage rate is so much." Well, the fellow out of work in New York would have to go down there and live in a boarding house or cheap hotel or something like that. He might figure it is a lot better to go to Norfolk and work for a couple of weeks than be on relief and out of work in New York.

OVERTIME SHOULD BE CONTROLLED

Mr. DONNELLY. We have found at Sampson Navy Base turned over to the Air Force that these mechanics would come in, work 9 or 10 hours Saturday and Sunday; they would come in from someplace else and do 2 days' work. That is the only time they would show on the payroll, Saturday and Sunday.

Admiral JELLEY. They worked somewhere else during the week?

Mr. PATTERSON. But there again you have to distinguish whether you were talking about a lump-sum contract or cost-plus-fixed-fee contract; the lump sum doesn't matter to us at all because the contractor——

Mr. DONNELLY. Sampson was cost-plus-fixed-fee and Little Creek, in the Norfolk district, also, so my illustration is comparable. Sampson and some of the work at Norfolk is cost-plus-fixed-fee.

Admiral JELLEY. That one small job at Little Creek——

Mr. DONNELLY. When you say small job——

Admiral JELLEY. A million and a quarter.

Mr. DONNELLY. Little Creek is $1,192,000.

Admiral JELLEY. You may also be thinking of the negotiated contract at Oceana for $7,000,000.

I am not sure of the Army system and how they operate their cost-plus-fixed-fee contracts, but if that had been a Navy cost-plus-fixed-fee contract at Sampson, the fact that men came in and worked 2 days a workweek on premium days, would have been under the control of the officer in charge of construction. Now, it may be that in his opinion that it was perfectly justified and he would authorize it.

But as a normal thing, our officers will look with suspicion at people who worked on the overtime days and then didn't show up on Monday morning or Tuesday morning. In an emergency they might make a deal with some people who have regular jobs somewhere else to come in and work 2 days, but I think that they would weigh the cost of that work very carefully before they would authorize a procedure like that.

Mr. DONNELLY. To give us some index, Bainbridge, which shows on this chart as costing on a cost-plus-fixed-fee contract, $17,411,000, is within the Fifth Naval District which has headquarters at Norfolk.

Admiral JELLEY. Yes.

Mr. DONNELLY. At Bainbridge as I indicated earlier the gross overtime paid there for that tremendous outlay of money was less than $9,000. That is pretty good index that these mechanics were not being paid premium time at Bainbridge.

Admiral JELLEY. We did not have the same degree of urgency at Bainbridge. Fortunately the recruits did not come so fast that the officer in charge of construction was faced with having to have barracks ready overnight. We were able to start early enough at Bainbridge so that we had nearly 3 months before the first recruits came, to get the barracks ready. And fortunately we made it a matter of policy that the job was to be run without overtime. And the only overtime paid was for emergencies that came up during the life of the job and even the $7,000 is very low for the emergencies you usually run into on a job that lasts that long.

Mr. DONNELLY. $9,000.

Admiral JELLEY. Yes, $9,000.

Mr. DONNELLY. I believe we will find as we go along that other services will pay as much as $2,000,000 in overtime on a $7,000,000 contract. The Navy, as far as I have been able to see, has not done anything like that.

Admiral JELLEY. We might have to do it in some urgent case that is a matter of winning or losing the war if we don't do it, but this past year our work has been such that we haven't had to, time has not been of the essence in general. We have had time to draw our plans and specifications and take bids. We went to those cost-plus-fixed-fee contracts for rehabilitation not only to save time, but because it was an almost impossible task to try to specify what you were going to do with a 10-year-old building that had been closed up for 5 years. It depended on the judgment of a superintendent, what he washed off and what he repainted and questions like that. It would take us a year to write the specifications and even then the bids would have been extremely variable. The cost-plus-fixed-fee contract in the last year has been used by the Navy as the only practical way of getting a rehabilitation job done, not merely because we needed the job in a great hurry.

I think that the Jacksonville aircraft plant was the only one where it was a matter of time. I think that was the only case where it was put on the basis of time.

SUGGESTIONS BY REPUTABLE CONTRACTORS TO COMMITTEE STAFF REGARDING CONDITIONS ON GOVERNMENT CONSTRUCTION CONTRACTS

Mr. DONNELLY. Admiral, we have had the staff go out in the field to a number of cities in all parts of the country and interview responsible contractors and ask them to furnish the committee with letters wherein they would make objective comments and constructive suggestions on Government construction practices. We have those letters with all identification deleted therefrom except the date of the letters and the city in which the contractor is located. We have in advance supplied your office with these excerpts and I would like at this time to ask how you feel with respect to the suggestions made.

The letters break themselves down into 10 categories of either comment or constructive suggestion, and in the order of mention of these categories, I found them as follows: First, dividing contracts into something in the neighborhood of $2 or $3 million instead of larger amounts. We find that the contractors have suggested that more of them would be able to bid if the contracts were in that amount. Do you want to comment on that?

Admiral JELLEY. Mr. Donnelly, I would like to make a general statement applicable to all the letters and then ask Mr. Katz to reply to the questions in detail.

ADMIRAL JELLEY'S GENERAL COMMENTS ON CONTRACTORS' LETTERS

First, I would like to say for the record, that I was very much impressed by the thoughtfulness and sincerity shown by these letters, and I want to assure you that it was not necessary to delete the names of the contractors because in my mind it was a compliment to the contractor rather than something that would cause any resentment on my part.

I did notice that in a good many areas the Navy has had little work, so that I think we will find in the detailed comments that there are many that do not apply to our operations.

Next, I would like to say that over the past 4 or 5 years, we have had two conferences in the Bureau of Yards and Docks with prominent construction contractors, with a view of discussing our contract operations in the past war and getting their suggestions and recommendations on what we should do differently in future emergencies. I must confess, that we picked some of the largest and best-known contractors in the country and while in the second conference we made an attempt to get some smaller people, I think we got the views of large contractors on the whole. In my opinion, not knowing the names of the people who wrote these letters, these contractors as a group would be in a smaller class, contractors who are looking for jobs from half a million dollars to $5 million, perhaps.

Finally, we have had very close cooperation and coordination with the Associated General Contractors, which is a national organization representing construction contractors. My deputy and myself have attended the various conventions and meetings. We have made speeches and participated in round-table discussions. We have been visited by various committees of that association on specific questions.

Finally, I am scheduled to address them Tuesday morning, in Detroit, at their annual meeting and Mr. Katz and myself are sched-

uled to participate in a round-table discussion on contractual operations on Tuesday afternoon. I sincerely hope that the hearings are finished in time so we can get away for that. I would like to say that I have junked the prepared speech that I was going to give and I am going to speak extemporaneously on the subjects and the points that were brought up in these letters. I like to speak on something that I know the audience is going to be interested in and I think this is prima facie evidence of what the big bulk of the contractors in this country, those who make up the membership of this association are interested in. At least you have furnished me with a topic for a speech.

(NOTE.—Subsequent to this testimony, Admiral Jelley and Mr. Katz attended the convention of the Associated General Contractors of America at Detroit. Upon his return to Washington, Admiral Jelley furnished the following information to the committee:)

DEPARTMENT OF THE NAVY,
BUREAU OF YARDS AND DOCKS,
Washington 25, D. C., March 5, 1952.

JOHN J. DONNELLY, ESQ.
Counsel, Subcommittee on Military Construction,
Committee on Appropriations, House of Representatives,
Washington 25, D. C.

DEAR MR. DONNELLY: In the course of the hearings before your subcommittee, I advised you that we would present to the Associated General Contractors of America the question of whether the liquidated damages set up on this Bureau's construction contracts are excessive.

Accordingly, the question was presented to the heavy construction contractors' division of the AGC at its annual convention in Detroit, last week, where Mr. Katz advised some 200 members that I was prepared to direct a substantial reduction in our scale of liquidated damages if the industry as a whole felt that the established scale was not justified.

You will no doubt be interested to learn that some eight or nine speakers from widely separated sections of the country expressed the opinion that the Navy's liquidated damages were not excessive and that they should not be reduced. No contrary view was expressed and I gained the distinct impression that the opinions indicated represented the sentiment of the industry in general.

There were indications, however, that many of the members felt that the completion dates set up on construction contracts were too tight. While this is frequently due to the urgency of military requirements, I feel that there is some justification to the complaints and that we can improve our procedures in this respect. Accordingly, I am instructing our field activities to give immediate and careful attention to the establishment of reasonable and realistic completion dates for the Navy's construction projects.

With kindest regards,
Sincerely yours,

J. F. JELLEY,
Chief of Bureau.

Mr. Katz will take up the question in detail.

DIVIDING LARGE CONTRACTS INTO 2 TO 3 MILLION DOLLAR CONTRACTS

Mr. KATZ. Taking up your first point, Mr. Donnelly, I think it is less applicable to us than to the other services, because semiseriously we are poor relations financially. We do not get money enough to run into big contracts.

The biggest bid contract we have had was for $10,000,000 and that one stands out like a mountain in our contracts.

The other ones run around 3, 4, 5 million dollars. That gives less scope for splitting down a contract. Nevertheless, as I think I said yesterday, we concur in the desirability of splitting down the contracts

wherever possible although we have serious reservations as to whether it will save the Government money.

I do not think it will save money. But it will give the smaller contractor a chance to come in without forcing him to join in a joint venture with some other small fellows so that he can compete against the big company.

It will spread the work more, and it will give the local contractor a better chance because there is less chance of a fellow coming halfway across the country to bid on a small contract than on a larger one.

By and large, the Bureau is sold on the principle of giving the small man a chance, spreading the work, and giving the local man a chance at the work in his community. Why it will probably not save money, I also pointed out yesterday.

You take that job at Albany, Ga. One of the letters pointed out that we had something like 10 warehouses there. Suppose we had split that into three contracts. Every one of those three contractors would need exactly the same kind of heavy equipment for building warehouses. Instead of one contractor bringing in heavy equipment, three contractors would bring it and the mobilization costs would be multiplied threefold, and so forth.

Admiral JELLEY. I might say, Mr. Chairman, we have already decided to promulgate a definite policy. To date we have left it to the judgment of local officers as to how they are to adjust their contracts. We are going to make it a matter of policy that no contract will be above a certain figure and I tend toward something in the neighborhood of $3,000,000. I would rather wait until after I have been to Detroit and discussed the problem before setting a figure that shall not be exceeded unless the approval of the Bureau is obtained.

Now, that would let the local man come back to us if he had 10 identical warehouses to build, which obviously are cheaper to have one man build.

I think that the existence of such a policy in writing will bring this important subject to the attention of our contracting officers and they will be looking for ways to split contracts.

To use the Memphis job as an example; it is obvious that two contracts could have been made without serious difficulty.

The training building was in one location, the barracks and mess hall group was in another location. Looking at it in hindsight, if we had had a letter out saying it was the Bureau policy to try to restrict contracts to a maximum of $3,000,000, that job would have been cut automatically into two contracts. So I feel that the fact that the Memphis contract was put into one $6,000,000 contract instead of two smaller contracts, shows that our contracting officers are not giving this subject the attention it deserves. We will definitely promulgate a policy that it is the contracting officer's prerogative to award contracts up to a certain figure. After that, he will have to come to the Bureau for approval.

Mr. FURCOLO. Roughly, when did you come to that decision? Has it been within the last week?

Admiral JELLEY. I would say that it had been since we read those letters. Although we did something along those lines at McAlester and Inyokern within the last few months, we were sort of feeling our way. Personally, I didn't take the suggestions I had gotten from

the field too seriously. I thought they were exaggerated and over-emphasized.

Mr. FURCOLO. It would be fair to say then you finally made up your mind within the last week.

Admiral JELLEY. Those letters and practically every one of them brought out the same point, showed me that there is wide segment of the industry that wants to do that. We would like to cooperate with the construction industry and if that is the way they want to work and it isn't going to increase our expenses, and we will get savings and better competition, I will go along them them.

Mr. KATZ. I think we are not going to get savings. I think it is going to cost us more money, but I think it may be worth while, nevertheless.

Admiral JELLEY. Not over all. It might cost more money for Government expense but less money on contracts.

Mr. FURCOLO. You are probably going to try it and see what happens.

Admiral JELLEY. After 6 months, we might want to change the figure from $3 million to $6 million or $1 million.

POSSIBLE WAYS OF SPLITTING CONTRACTS

Mr. DONNELLY. On this same point with respect to the comments of individual contractors, referring to the letter identified as one, we find this statement:

Size of project.—Projects should be broken down into size and parts that will fit plant and personnel of the greatest number of contractors in a particular section of the country. Thereby giving the contracting agency more competition on bids, and especially in this matter the contracting agency will have the advantage of securing bids by firms specializing in some particular part of the job such as building, plumbing, electrical, grading and paving.

Admiral JELLEY. I do not agree with that at all.

Mr. DONNELLY. Let me read the second comment which is in letter identified as No. 4, and I quote:

Certain contracts lend themselves very well to being split up; such as, on a large building project, taking separate bids on the site work, which work would include such items as exterior sewers, grading, paving, culverts, etc. The building items could be taken as a separate bid unit and similarly should there be any bridges, small bridges, flood control work on the building project, that might very advantageously be let separately, because generally, contractors who follow that type of work are not interested in building work.

Admiral JELLEY. I would agree with the second letter in part. The first letter spoke of doing the plumbing and electrical work and building work separately. It would be an intolerable condition to have a building split up with one man having the contract for the framework, another the shell, the third the plumbing, and the fourth the electrical work. It would be a terrific job for the Government.

On the second letter, I would go along with the separate contract for the site preparation providing it would not interfere with the operations of the building contractor.

Now, in practice, what happens is that a general contractor usually gets a contract for the whole job. He has a little bit of sidewalk work, which he will subcontract to a fellow who does sidewalks. He

will have a small bridge, he might subcontract that to a small contractor who specializes in concrete bridges. He would subcontract electrical work to an electrical man, the plumbing work to a plumbing man. Then the general contractor is responsible for seeing that the plumber is there with his piping at the time the rest of the building is ready for it; that the electrician is there for his work with his electrical material at the time the rest of the building is ready for it. If we tried to take on the job of scheduling at which our officers are not experienced, we could not do a good job.

But I would like to bring to your attention the work down at Albany, Ga., which is a new supply depot. I suppose so far we have had a dozen contracts down there. We have had contracts for railroad, contracts for drainage, contracts for various site work. The biggest contract has been the one for $10 million which was for 10 identical warehouses. We could not split that one up in good conscience, but they did split up the rest of the work. In discussion with our local engineer officer down there, he indicated that he had done it deliberately to give the local contractors an opportunity to bid.

Mr. DONNELLY. The second point that appears most frequently in the letters—I might say for the record that there are 26 letters each numbered in the upper right-hand corners. I would like to put them in the appendix rather than put them in the body of the record.

Mr. RILEY. They will be printed in the appendix at page 346.

LIQUIDATED DAMAGE PENALTIES ARE FACTOR IN BIDS

The second point is one that was discussed yesterday, that is, liquidated damage penalties. As a corollary to that, there is the desirability of minimizing overtime wherever possible. Would you want to comment on those two?

Mr. KATZ. I expressed our official view, the view of Yards and Docks, on liquidated damages yesterday when I said that we do not think that liquidated damages should be done away with on construction contracts. We think they have a certain psychological value and my contacts with the contractors indicate to me that they think the same thing. We are very much in agreement that they should not be excessive; we want high enough liquidated damages so that the contractor will know that if he lays down on the job, he is going to be hurt. We do not want enough so that he will have to pad his bid.

Now again, I do not know what the ideal figure is. We have a scale which is based on the estimated cost of the job. But on that basis, the same figure applies to a soft-ball field that we build for the WAVES somewhere, or to an urgently needed ordnance depot which is going to turn out shells for Korea when it is finished.

If the officer in charge is experienced and uses his judgment he need not follow the scale too closely. If he is inexperienced, he will get some ludicrous comparisons. I was talking to the Chief yesterday, and he thought that we might sound out the contractors in Detroit about fixing a lower maximum on liquidated damages—maybe we will just tell our people that in no event shall it be over $500 a day. Right now, a $5 million contract runs around $1,500 a day in liquidated damages.

Mr. DONNELLY. On the overtime item, a little earlier this morning there was mention made on your side of the table of this matter of overtime in the lump-sum contracts being the concern of the contractor as distinguished from cost-plus-fixed-fee where the overtime is the concern of the Navy.

Mr. KATZ. The Navy might be concerned even on a lump sum contract, because if we request the overtime we would have to pay for it.

Mr. DONNELLY. That appears in these letters, I believe.

Now, in this letter No. 2 we find this comment:

> We urge that contracting officers continue allowing sufficient time to complete a job without resorting to overtime. At the present time, we feel that most Government jobs are being estimated without this expensive overtime. However, should contracting officers require any contractor working on their location to resort to overtime in order to get back on schedule, we feel sure that this will start a chain reaction that will ultimately result in overtime being figured on all Government work and thus increase the final cost to the Government by a very substantial amount.

Admiral JELLEY. Just one moment; we cannot do that. If we want him to advance his schedule to do the job a month earlier than specified and he comes to us and says, I can do it if we pay overtime but it will cost you so much—we can pay in that case. I never remember of its happening but it is possible. But we cannot go to a contractor and say, you are behind schedule; you have to work men this week end.

Mr. KATZ. I think maybe what the fellow means is that if we set too tight a completion date, he has to figure on doing overtime and include it in his bid. If we set a 3-month completion date when the job ought to run 5 months, the contractor figuring a bid knows he must do a certain amount of overtime and includes that in his bid.

Admiral JELLEY. I want to remind you that in the 1952 Public Works Appropriation Act there was a provision inserted, I believe after the conference, that we could not spend money for expediting jobs unless we had the Secretary's prior approval. In our opinion this prevents us from paying overtime to speed up a job.

Mr. DONNELLY. The next comment is particularly relevant to the comments that you have just made here. This is letter No. 14. It is from a contractor at St. Louis, Mo., dated November 1, 1951. He says:

> In the past we have done considerable construction for all departments of the Armed Forces, but for the past several years we have had very little interest in any Government work occurring in this area. The principal reason for our disinterest is that we have had a sufficient volume of other business to keep us occupied, and since we would rather have private business than Government business, we have made no attempt to obtain Government work. In addition to the fact that we have been otherwise busy, there is another principal reason why we now find Government work less desirable than private, and that is most frequently time limits are stipulated in the specifications and contracts for the completion of the work. It has been our experience that these time limits are most generally difficult to meet.
>
> The specifications usually provide that failure on the part of the contractor to complete the work within the time as specified results in penalty being assessed against him, and the right is reserved to the Government under the specifications to compel the contractor to work his forces in shifts, Saturdays, Sundays and overtime if necessary, to complete the work within the specified time. This condition is full of risks to the contractor and invariably must provide a "cushion"

in his bid to compensate him for any demands made on him by the Government in enforcing such conditions.

Mr. KATZ. I have never seen a Navy specification that had that provision in it. Have you, Mr. Patterson?

Mr. PATTERSON. No; I do not know of any Government contract form that would have it in.

Admiral JELLEY. I would say offhand that that fellow is one reason I want liquidated damages in the contract. He just does not sound like he is a person who will try to get out and meet a deadline. He wants to do it at his convenience, not ours.

Mr. PATTERSON. It might be well to have the record show that all Government agencies use Standard Form 23. I will modify that to the extent that ours has a little different material and a little different form—but it is basically that contract form as approved by the General Services Administration. It used to be approved by the Treasury Department.

Admiral JELLEY. I think the contractor is misinformed.

Mr. PATTERSON. It is about 12 or 14 pages. Through the years, I think any construction contractor in the United States who has been in business any length of time is thoroughly familiar with that form of contract and its operation.

Admiral JELLEY. I feel that the man is misinformed.

Mr. DONNELLY. Our information is that in military construction contracts this provision does occur in the specifications. Would you like to supply a standard form Navy contract for the record to be put in the appendix and then we will get one from the other services?

Mr. KATZ. Yes, sir.

(NOTE.—The standard form Navy contract is printed in the appendix at p. 328.)

Mr. PATTERSON. We can compel him to work overtime, that is correct, but we have to pay for it. We cannot compel him to do it at his own expense even if he is behind schedule.

Mr. FURCOLO. That is the point he is making.

Admiral JELLEY. He has to put a cushion in his bid.

Mr. FURCOLO. I thought he was making the point that it is poor business in the long run because you can compel him to do it and make him put a cushion in it.

Mr. PATTERSON. Just like a change order where we order extra work or extra employment. The contract itself provides that he must be reimbursed for that.

Admiral JELLEY. We cannot compel him to go to overtime just to get him back on schedule.

CONTRACTOR'S PREFERENCE FOR NONGOVERNMENT WORK

Mr. FURCOLO. Before you pass on to another letter, I think it is interesting to point out in the record that while the general opinion of the public seems to be that the best contracts available are Government contracts, that that is the best sort of work and you can loaf on the job and make all kinds of money, here is at least one contractor who says very plainly he prefers a private contract. I assume the indication is that he can either make more money on a private contract or perhaps does not have to work as hard or just is fed up with

Government regulations, but it is an interesting letter from that point of view.

Admiral JELLEY. There is a lot of paper work. He has to furnish a certified payroll that goes to the Department of Labor. A lot of rugged individualists object to the Department of Labor getting into their affairs. On a Government contract, he is bound by the Davis-Bacon Act, and maybe the Walsh-Healey Act will apply. Well, a lot of rugged individualists say it is none of the Government's business how we do our work and we will not take any Government contracts. That may be what is in the back of his mind.

Mr. FURCOLO. You are going to provide one of those standard contract forms.

Mr. PATTERSON. We will have one for the record this afternoon.

(NOTE.—It is printed in the appendix.)

Mr. KATZ. He may be a fellow who has never succeeded in getting a Government contract and is tired of spending his money.

PEAKING OF CONTRACT AWARDS

Mr. DONNELLY. Now the point that occurs with the next amount of frequency in these letters is the peaking of contracts; that is, the concentration of obligating funds and awarding contracts in the months of May and June. Let me read this, as it will give us a background for discussion. It is a letter from Atlanta, dated November 14, letter No. 2, and states:

A tentative schedule showing approximate dates on which various jobs will be ready for bids, covering a period of from 3 to 6 months, would be helpful in enabling contractors to schedule their bidding operations and thus be able to bid on jobs they are best qualified to perform. If this preliminary scheduling indicates a conflict of too many jobs of the same size and type being bid on approximately the same date, interested contractors could call the contracting officer and possibly arrange for this schedule to be modified so as to permit them to bid on more of the jobs, thus insuring the Government better competition and the contractors a chance at a larger volume of the work they are best qualified to construct.

Mr. KATZ. I think Admiral Jelley covered that in detail both in answer to that specific question and in answer to various questions from the committee. He pointed out that we could do that within limits, but that the way we get our money and other factors prevents us from doing it in all cases.

Admiral JELLEY. We are actually doing that in the present procedure of clearing our bidding dates with other Government departments. It is not published, however, and in addition, it would be impractical for us to do it as much as 3 months and 6 months in advance. But in effect, we are making an honest attempt to try to space out our bidding dates.

DALLAS-FORT WORTH AREA

Mr. DONNELLY. With respect to the area around Dallas, Tex., we have two separate comments along that same line that may indicate that Dallas has been an exception—three of them here.

We have one dated November 15, 1951, and identified as No. 3. It states in part:

There has been intense competition and a large number of bidders on all Government work in this area in recent months. The method outlined above, there-

fore, creates an obvious economic vacuum and is detrimental to the best interests of the construction industry. Since this economic loss must be made up by someone, it is obviously ultimately passed along to the owner, and the Government is the principal owner at this time since private work is sharply curtailed.

Now we turn to another one from Dallas.

Admiral JELLEY. I would like to point out that the only activity we have in that area is the Reserve naval air station at Dallas. The amount of work in the past year at Dallas was minor. We had one jet fuel storage job that ran to a few hundred thousand dollars and a number of maintenance type contracts.

Mr. DONNELLY. Just to complete the record on this point, there is a short quotation from letter identified as No. 18, from Dallas, as follows:

In June 1951, there was considerable peaking of blueprints received for bidding. The average construction company did not have sufficient manpower to handle the great quantities of proposed work. Since the last peaking period the proposed work has been released more systematically.

Mr. FURCOLO. Might I ask, without identifying the people, whether or not those three letters are from larger concerns, or is that from the run-of-the-mill concern? If you do not have it here, we can put it in the record later.

Mr. DONNELLY. Off the record.

(Discussion off the record).

Mr. DONNELLY. Here is another one from the same area. This is Fort Worth, November 7, 1951, identified as letter 19, and stating:

There have been times, particularly just prior to the close of the Government fiscal year on June 30, when invitations and proposals would be issued in such numbers that it was impossible for me to inspect and place bids on all work in which I was interested in bidding; however, it is my understanding that the cause of the peaking of the letting of the contracts, as above mentioned, has been corrected and that the taking of bids can and will be done by spacing of contracts over a longer period of time. This I think would be to the advantage of the Government as well as to the contractors, and would permit more competition on various projects.

I just add that to complete the record on that point.

PLANS AND SPECIFICATIONS SOMETIMES INCOMPLETE AND NUMEROUS ADDENDA ISSUED PRIOR TO BID OPENING

The next point that occurs in descending order of frequency is this one, that the plans and specifications which are sent out with the invitations to bid are not sufficiently detailed or complete and that there are addenda issued between the time that bids are first invited and the bid opening date, for example.

Mr. KATZ. I do not think they are talking about us. That seems to hit at the type of Army or Air Force contract mentioned yesterday where they turned out skeleton specifications. The plans and specifications that we issue for bidding are complete and in detail.

Now, every once in a while a contractor will come up prior to bid opening and ask us how do we interpret such and such section? If our officer finds that it is ambiguous, he issues an addendum to correct or clarify that section.

Now, when they say that many addenda are issued, I have seen a lot of contracts and I would say that the average is two or three addenda to the contract.

Very frequently, the addendum is merely one which postpones the bid opening date. Contractors have come in and said, we want more time on this and we issue an addendum postponing it for a week or 2 weeks. That does not complicate the picture. Sometimes, our friends over in the Labor Department do not get the Davis-Bacon rates to us as soon as we want and we issue an addendum to include those in the specifications. But addenda actually changing what the man is bidding on do not run more than two or three to the fairly big contract, and they are always caused by somebody who has discovered that something in there is incorrect or is not as clear as we thought it was when it was written.

Admiral JELLEY. I would like to add another source of addenda. When the plans and specifications are issued in a hurry, and the job is urgent, in a number of cases the specifications and the plans are prepared by the architect-engineer and sent out immediately. Then the officer in charge of construction has his own people review them. Well, in review he may come across a dozen or 15 items that he does not agree with. He would then issue addenda covering those items after his review. That happens once in a while, too. The Bureau reviews architect-engineer specifications and if we pick up something on spotchecking that we know from past experience is not good, we will direct the officer in charge to put out an addendum. But on the whole, I think our reputation is second to none for getting out good, complete, detailed plans and specifications. I have heard, over the years, many contractors make that comment.

Mr. POTBURY. May I state that we have a byword that it is better to be wrong but definite rather than to be entirely correct but indefinite to provide a firm basis for bidding.

Admiral JELLEY. I agree that our specifications are long.

Mr. DONNELLY. Apparently, then, the comment on this point is directed at the other services.

An illustrative letter is that identified as No. 17, Dallas, again. This is dated November 5, 1951:

> The bid date for the one job we recently bid (for the Corps of Engineers, U. S. Army) was postponed three times for revisions to the plans and specifications. When the final revised plans were received we found that major alterations had been made, reducing the size of some of the buildings to a great extent, and we should think the agencies concerned should have knowledge of just exactly how much floor space was required before the plans are prepared and distributed to contractors for preparation of bids.
>
> Also on this particular project complete information concerning the depth of the foundation footings was not shown on the plans, and to protect himself, the low bidder qualified his bid to the extent that his bid was based on a maximum depth of 4 feet 0 inches. The plans provided for a minimum depth of 4 feet 0 inches, but gave no indication as to the exact elevation of the bottom of the footings. As a result of this qualification, brought about by incomplete plans, to our knowledge no award of the contract for this project has as yet been made, although bids were received on October 16, 1951. Plans for this project were first distributed to the interested bidders on or about September 1, and the first date for receiving bids was set for September 18, 1951. To date, some 48 days later, no contract to our knowledge has been awarded. Due to the rapid change in labor conditions and prices of materials, such extended delay could materially affect the contractor's estimated cost of the project, and in anticipating such delays the bidders must necessarily protect themselves by making an allowance in dollars and cents to offset any such probable cost to them.

I put that in to complete this phase.

NEGOTIATED CONTRACT SHOULD BE USED LESS

Mr. DONNELLY. The next point here is the contractor's desire that the Government get away from negotiated contracts, that is, where the contract is negotiated with a limited list of contractors, and use the competitive contract more frequently.

Admiral JELLEY. Does he mean limited list or single contractor? I think the limited list is a valuable thing to have in your pocket when the right time comes along to use it.

Mr. DONNELLY. Here is a letter from Atlanta, Ga, letter No. 2, November 14, 1951. This contractor suggests:

> Elimination of so-called negotiated contracts where plans and specifications are complete, bids are received and opened in private, and then the low bidders are called in and the job discussed. We, and most of the general contractors prefer to have the bids opened in public and if the bid is within the allowable amount, where the contracting officer can make an immediate award, the low bidder be so notified at that time.

Admiral JELLEY. He is not talking about us.

Mr. DONNELLY. In a letter from Boston, Mass., identified as No. 11, dated November 6, 1951, saying:

> We find little fault in the methods used by the Government procurement agencies in the awarding of construction contracts, though some of our members have felt that all jobs should be opened to competitive bidding. Payments for work performed by general contractors have not been made as speedy as some of our members would like to have them be made.

Those are the two comments that we have in the letters on that point.

Mr. KATZ. We indicated yesterday that less than 2 percent of our contracts were negotiated and that, in the second half of the year, the percentage went down. I think we can also say, without committing ourselves to a figure, that unless conditions change we will probably go below that percentage next year.

GOVERNMENT SHOULD NOT ASK CONTRACTORS TO PREPARE PLANS AND SPECIFICATIONS

Mr. DONNELLY. The next point is an objection to a requirement on the part of the Government that contractors prepare plans and specifications where the Government has already done so.

Mr. KATZ. A very sound objection, it seems to me. We require that only when we are purchasing a nonstandard type of equipment. Then, we issue a performance specification to indicate what we want the equipment to produce, what output we want it to meet, and so forth. And we ask the bidders to submit the detailed plans and specifications. But we don't do it on construction contracts.

BIDDING ALTERNATES SHOULD BE KEPT DOWN

Mr. DONNELLY. The next comment is a suggestion that the services minimize alternates in bidding. Yesterday, we had a discussion with respect to the desirability of alternatives or alternates in bidding where you did not know whether the money you had available from appropriations would do the job. So you had to deduct the alternates in order to make the award, and then add them when more money was available.

Admiral JELLEY. I do not want to imply that that is desirable. It is often done. Personally, I think it reflects a weakness or lack of confidence, at least, on the part of the engineer and designer that he cannot design his structure within the allowable money. When I see five, six, or seven alternates taking something out, I get a bad impression; so I would not say alternates are desirable. The ideal situation is to have one item and the low bidder on that item gets it. Then you do not have a lot of alternates that you can fool around with.

Mr. KATZ. As a matter of fact, we have a letter in preparation right now which Mr. Potbury drafted telling the field that we do not want alternates if they can avoid it. I do not know how soon that is likely to go out to the field, but it is a problem that we are aware of.

Mr. PATTERSON. You might read the words of that particular letter to distinguish between alternates, which are to my mind a different type of construction, and what we call deductive bid items which are really not alternates at all—it builds the same building but leaves off one wing, just in case we do not have enough money. They are really two different things; there are alternate and deductive bid items. One of them may be talking about deductive bid items and not alternates. We have very few alternates; you do not see that very often in our bids. Our bid items are deductive items to reduce the price so we can build within our money.

Admiral JELLEY. Sometimes they are additive, too.

Mr. PATTERSON. Or additive, too; but somewhat different than a real alternate.

Mr. DONNELLY. Now, we have a letter from Boston, Mass. as No. 22 dated November 1, 1951. It says:

3. Requirement of alternates

There is a growing tendency to require a larger and larger number of alternates to be submitted with the bids. An undue number of alternates tends to confuse the bidder and does not establish in his mind the basis on which the awards would be made.

Admiral JELLEY. Quite true.

Mr. DONNELLY. On this matter of deductive bid items or additive bid items, we examined that in the Memphis situation and we got a copy of the Navy's abstract of bids which has apparently been put in the record as I do not have it here. We had some difficulty on the committee staff in ascertaining whether these items which are identified across the top, item 1 through item 13, were alternates or additive items or deductive bid items. We could not tell from the abstract of bid itself. Can a contractor tell?

Mr. KATZ. The specification tells him.

Admiral JELLEY. It takes time and it is a lot of trouble.

UNREALISTIC PRELIMINARY COST ESTIMATE ON MEMPHIS JOB

Mr. DONNELLY. Another thing that disturbs us is this Memphis job. A number of alternates, the Admiral stated, indicate lack of reality in the matter of cost estimate. Here in Memphis we have the architect started on the 27th day of January 1951 to draw complete plans and specifications. He had ample time to do the job.

Admiral JELLEY. That was a rush job for that type of work. It took a big man with a big outfit and he did a good job in getting them

out in time. I would say that normally you would expect him to have it in 90 days.

Mr. GLENN. You see from the size of the plans that it was a lot of drawings.

Admiral JELLEY. He did a fine job of getting them out in time and we picked a big man who had a big office, a two or three hundred-man office, who could put a lot of people on it and could get it out in a hurry.

Mr. DONNELLY. He did a complete job in getting out the specifications? The preliminary cost estimate is, in round figures, $4 million. That is considerably less than the $6¼ million that the job is costing, and the bids were received between May 15 and June 15 which was shortly after, within a month or two after he had made this estimate.

Admiral JELLEY. I would say that he went way off; no one can estimate these things exactly, but I would expect our architect's estimates to run within 10 percent of the average of the bids.

Mr. FURCOLO. It seems to me that at this point in the record we might have them later on submit whatever the explanation might be that the Navy has come to with reference to why there was this discrepancy.

Admiral JELLEY. We will comment on this $2 million difference. I think it would be fair to the architect to give him a chance to explain himself.

Mr. FURCOLO. In addition to that, I think this record should show more than that simply both sides of the table feel that there is something to be commented on. There should be some explanation. The Navy should officially state its stand on this matter. I think we should put it in at that point in the record.

Admiral JELLEY. Suppose I send him a telegram and see if he will send me a statement as to why his estimate was off.

Mr. DONNELLY. Do I understand that the representative of the architect is right now at Memphis with Commander Stelger?

Admiral JELLEY. We asked him to furnish the job captain and the specification writer, the chief specification writer; whether the job captain had the estimates prepared, I do not know. It might be well if Commander Stelger stayed over.

Mr. FURCOLO. I do not know what the others want but for myself I want to have that show more than simply what the contractor says. I would also like to have the record show that the Navy, itself, checked into it and that they feel that what the contractor says is reasonable, or is unreasonable.

Mr. DONNELLY. I agree with you, it is more than just the contractor because on the job at the present time are the representatives of the architect, the contractor himself, and the Navy represented by Commander Stelger.

Mr. FURCOLO. In other words, actually we really in the long run have to hold the Navy responsible. I assume that is you, of course. Now you have to get after whoever you do get after and I think at this point in the record there should be some official explanation forthcoming from that side of the table which will perhaps include what the architect and the contractor or someone else has said.

Admiral JELLEY. We will submit that.

(The Navy's explanation is printed above at p. 73.)

Mr. DONNELLY. Now, is there anything further you want to say on the letters? I do not want to spend more time on them than is warranted. I think I have covered them in general.

Admiral JELLEY. I think you have covered the main points.

RUNWAY WORK AT NORFOLK NAVAL AIR STATION

Mr. DONNELLY. The next item for the hearings is consideration of contract No. NOy 27129 for the naval air station at Norfolk, Va. The committee staff has prepared a summary of the contracting features of this project.

(The summary is as follows:)

NAVAL AIR STATION, NORFOLK, VA., CONTRACT NOy-27129

This contract comprised the grading, stabilization, paving, draining, lighting, topsoiling, marking, and seeding for the extension to the airport pavements.

Date of design authorization by using service: January 6, 1951.

Date advertised for bids: April 10, 1951.

Date plans and specifications available: April 19, 1951.

Date of bid opening: May 3, 1951.

Bid range (four bids received; plans and specifications were made available to seven contractors, but the job was not generally advertised) $5,252,560; $6,575,901; $6,999,836; $7,595,400.

Notice of contract award: June 15, 1951.

Contract awarded: June 21, 1951.

Contract amount (low bid reduced to this figure in that Government agreed to furnish some of the material), $4,804,210.55.

Construction time: (1) 159 days, phase I, runway to be opened to traffic; (2) 205 days, completion of all work.

Penalty: $750 per day.

Change orders (estimated cost of previously authorized and anticipated change orders as of August 28, 1951): $917,691.

A representative of the Fifth Naval District discussed with the staff the change orders as of August 28, 1951, which reflected the following analysis:

(*a*) Changes in design by using agency	$287,500
(*b*) Omissions from original contract and errors	89,691
(*c*) Unforeseen foundation conditions	530,050
(*d*) Excavation over-run	10,450
Total	917,691

Some of the omissions and errors, according to the naval representative, were attributed to an inadequate field survey by the architect-engineer and others to the Navy. This representative was of the opinion that these omissions and errors could have been avoided had more time been available for checking the plans and specifications. He further informed the Staff: "It is anticipated that additional changes may be necessary as the work progresses."

Records show that bids were requested on April 10, 1951, but the plans and specifications were not available until April 19, 1951. In them the Navy required expeditious construction and required early completion dates. Bids were opened on May 3, 1951. The notice of contract award was given on June 15, 1951—a delay of 6 weeks. By way of explanation, the Navy stated that this time was consumed in the "apportionment of additional funds to finance the projects."

The 43-day lapse between bid opening and notice of contract award proved to be damaging since it extended the work beyond the construction season into winter weather. This became evident to the Navy as early as August 25 when the resident officer in charge of construction concluded that the completion date required by the contract could not be met, and that the most optimistic completion date would be January 19, 1952, a delay of 53 days. (It should be noted that the contractor by letter of August 10, 1951, had requested a time extension.)

Still more serious is this officer's report that the Bureau of Aeronautics had advised that lighting fixtures would not be available, in all likelihood, until February 1952, notwithstanding the alleged urgency of the project.

In summary, this project illustrates deficient planning and execution of work for which Congress was urged to appropriate money in the Second Supplemental Appropriations Act, 1951.

Admiral JELLEY. This was one of the negotiated contracts, by the way. It is included in the list of negotiated contracts.

Mr. DONNELLY. Yes, Admiral, and we see that it is a negotiated lump-sum contract. You did receive, under the heading of bid range, four bids and the plans and specifications were made available to seven contractors. So that you had a fairly wide range of contractors who might have submitted bids. You had a range of bidding from $5¼ million to $7½ million. Now, the item that we are particularly interested in is the construction time, 159 days for phase 1 and 205 days for the completion of all the work with liquidated damage penalty of $750 a day. And we find at the top of page 2 of this summary that the using agency or sponsoring bureau which I take to be BuAer, is that right?

Admiral JELLEY. I do not know whether it would be BuAer or the commander of the naval air base. They were working with the commander, naval air base.

Mr. GLENN. The Bureau of Aeronautics is the bureau having management control of the air station, but the funds are public works funds which the Bureau of Yards and Docks controls.

Admiral JELLEY. We are the sponsoring bureau.

Mr. DONNELLY. I used that term because I thought that was Navy parlance, sponsoring bureau.

Admiral JELLEY. Where is it?

Mr. DONNELLY. It is "using agency." I thought that should more properly be identified as the sponsoring bureau.

Mr. GLENN. They have management control of the air station.

Admiral JELLEY. I would say that is BuAer. But if the aviators down there, the commander of naval air station or the air base people in the fifth district, which is a general command or DCNO Air, said we want it this way or that way, I would call that a change by the "using agency."

Mr. DONNELLY. In this case there was a change required by the using agency. It amounted to $287,500. Then we look at the second paragraph on that page which reads:

Some of the omissions and errors, according to naval representative, were attributed to an inadequate field survey by the architect-engineer and others to the Navy. This representative was of the opinion that these omissions and errors could have been avoided had more time been available for checking the plans and specifications. He further informed the Staff: "It is anticipated that additional changes may be necessary as the work progresses."

It has not been the purpose of our staff investigators to put any officer on the spot or anything of that sort. We do not identify him. But these statements were made by whoever the naval representative was. And then we find the bids requested on April 10 but plans and specifications not available until 9 days after bids were requested. Is that unusual, Admiral?

Admiral JELLEY. It would not be unusual on this type of negotiation where you were dealing with a limited list of bidders. You would get in touch with them by this means to find out if they were interested. I think it would not be in our ordinary type of advertised competitive bids; we do not send out the advertisements——

Mr. DONNELLY. Apparently there was some urgency in time on this job as indicated by inadequate time to check the plans and specifications; yet we find a lapse of time between the bid opening, May 3, and the notice of contract award, June 15, approximately 6 weeks. The Navy's explanation was that this time was consumed in the apportionment of additional funds to finance the project. Would you care to comment on that?

Admiral JELLEY. Mr. Glenn is more familiar with the details. Would you like to comment on that?

Mr. GLENN. That is one of the reasons. We had this contract; it was to be financed, I think, out of the general appropriation (Public Law 759, 81st Cong.) or the first supplemental money (Public Law 843, 81st Cong). We had the lump sum of $5 million for four locations, I believe it was. We did not have enough money available to do the job, after we studied it. Then in the second supplemental (Public Law 911, 81st Cong.) we got some more money. So, it did require some scratching around to find out how we were going to get the money because really we were running very close to the amount of money we had available and it was a question of whether we wanted to take the chance on going ahead.

Admiral JELLEY. Wasn't there also delay in the Bureau of the Budget approving the apportionment?

Mr. GLENN. I think there was. I would not say for sure.

Admiral JELLEY. As I recall, the whole aviation program was delayed until the Bureau of the Budget could study the question further. It fairly appears that the Navy should have seen that funds were available before requesting proposals for contractors and certainly before opening the bids. I think that the apportionment process took longer than we had expected which was the reason, at least a partial reason, for that.

Mr. DONNELLY. Apparently the delay, this particular delay, was critical in that it threw the whole operation into the winter season, and we have a memorandum of the resident officer in charge of construction on that point.

Admiral JELLEY. There was another point Mr. Katz reminds me of, whether it actually tended to delay the award of the contract, I do not know, or whether the apportionment was the prime reason for the delay, but the contractor claimed, and I think he was right, that he had made an error in his bid.

Mr. KATZ. He was a million and a quarter dollars below the next bidder.

Admiral JELLEY. The amount of his error was in the neighborhood of half a million dollars. He came around and did some questioning, and finally, after hearing all the possibilities, the contractor decided to go ahead with the award rather than forfeiting his bond. Whether that actually delayed the award I do not know, but do not think it delayed it too much. I think the apportionment was probably the prime reason. As Mr. Donnelly has showed, every now and then you get a job that is a lemon.

COMPLICATIONS IN CONSTRUCTION SCHEDULE AT NORFOLK

Mr. DONNELLY. Now we have a memorandum dated August 28, 1951 from the resident officer in charge of construction to the officer in charge of construction. In the first paragraph he says:

A study made August 25, 1951, to determine the financial and fiscal status of subject project indicates that target dates for completion cannot be met.

Then he gets into details with respect to the difficulties.

On the second page in paragraph 9, he says:

Delay now will also result in advancing the paving schedule into winter with the resultant delays inherent to winter construction in this area.

Then on the same page, lower down, paragraph 11, states:

Field lighting during the month of August has developed into a major problem, particularly with respect to an informal report from the Bureau of Yards and Docks to the effect that the Bureau of Aeronautics may not supply lighting fixtures until February 1952.

And then we turn over to page 3, the last page, and we find at the top in paragraph 13:

If, however, lighting equipment, cable, and fixtures will not be available until February 1952 this officer believes that immediate steps must be taken to revise both the timetable and the scope of the present construction schedule and possibly the scope of the existing contract because lack of lighting materials will probably require localizing work to the east-west runway and taxiway until that strip is made operational.

It is clear that difficulties were being encountered there, but the thing I would like to ask you about is the availability of the lighting materials. When the Navy started out to build this particular job and specified a set of time schedules and completion date, obviously someone must have checked with the Bureau of Aeronautics or someone who was responsible for the lighting fixtures and facilities to ascertain their availability.

Admiral JELLEY. I understand that the lighting fixtures were ordered through the supply depot at Mechanicsburg and the supply depot at Clearfield, Utah, in November, on November 5, and were actually shipped on November 21. To me that indicates that they were in stock. You cannot get those from the manufacturer so quickly, and besides, they would not put in an order to one of the supply depots if they were to be purchased. So I think that there must have been misconception at the time, or misinformation with the February 1952 date. I notice this is dated August 28; however, BuAer did not actually order shipping until November 5. The lighting fixtures actually arrived about December 1. Whether it was because the local people said we do not need them until December or not, I do not know but it appears to me that this was supplied from stock.

Mr. GLENN. They are out of stock. However, I think I made a note there; we did waive one item. We advised that transformers were not available but they could splice the cables in lieu of using connectors. That gave them an out, just to help them.

Mr. DONNELLY. I think it would be helpful to print in the record at this point the memorandum regarding Norfolk which is dated August 28, 1951.

Mr. FURCOLO. It will be printed in the record at this point.

(The memorandum is as follows:)

OFFICER IN CHARGE OF CONSTRUCTION,
PUBLIC WORKS OFFICE, FIFTH NAVAL DISTRICT,
Norfolk, Va., August 28, 1951.

From: Resident officer in charge of construction.
To: Officer in charge of construction, Fifth Naval District.
Subject: Contract NOy–27129, extension of east-west runway, NAS, Norfolk, Va.

1. A study made August 25, 1951, to determine the financial and physical status of subject project indicates that target dates for completion cannot be met.

2. The principal phases of the work controlling physical completion include excavation, placing of sand drain blanket, driving sand piles, placing surcharge, paving, and lighting.

3. To date excavation is 100 percent completed, including a 50 percent overrun, and the contractor is now concentrating his resources on the hauling and placing of fill for the sand drain blanket in a determined effort to keep ahead of the sand-pile operation.

4. Use of six sand-pile rigs on a 20-hour-per-day basis, producing at the rate of 20,000 lineal feet of vertical drains per day, requires that all material hauled in be used as sand blanket, thus penalizing surcharge work.

5. To date 508,000 lineal feet of sand drains of the 694,000 lineal feet authorized in the contract have been driven. Completion of this phase of the work, however, requires at least an additional 110,000 lineal feet for which funds have not been authorized.

6. The present limiting physical factor is the item of work described as sand borrow, which item was set up to cover the sand drain blanket, surcharge, and stabilized base requirements estimated in the contract to be 541,000 cubic yards. Now 514,000 cubic yards have been placed; however, due to extraordinary unstable soil conditions encountered, necessitating stabilization of additional areas and wider areas in the runway and taxiway locations, approximately 200,000 cubic yards more sand at a cost of about $425,000 will be required.

7. Sand borrow has been a bottle neck on this project since its inception due to the difficulty of locating sources of satisfactory material near the site of the work; further aggravated by the loss of 2 weeks at the start of the contract during which time the contractor did not choose to take advantage of material at Fort Story, made available by the Navy, while searching for pits more favorably located.

8. Despite a slow start the contractor has increased his production of 3,000 cubic yards of sand placed on the job per day to an average of 12,000 cubic yards per 20-hour day which is about maximum considering traffic and loading limitations. This creditable performance, however, falls short of job requirements because so much material is required to keep the sand-drain blanket ahead of the sand-pile rigs that the surcharge work is being delayed. The contractor's operation is expedient now, but the time lag involved, which can never be made up, due to the required 90-day settlement period, will result in future delay, particularly with respect to paving operations.

9. Bituminous paving work is proceeding on a limited basis, restricted, since August 7, 1951, to placement of a partial leveling course on the existing concrete. Work on the balance of the leveling course, which is to be asphaltic concrete rather than sand asphalt, cannot be initiated until approved by higher authority. Continued delay will delay final completion of phase I, consisting of partial completion of the east-west runway, and phase II, completion of the remainder of the contract. Delay now will also result in advancing the paving schedule into winter with the resultant delays inherent to winter construction in this area. Although the amount of asphaltic concrete required by the change of specifications has not yet been determined due to the difficulty of measuring the irregular sections on the existing pad, and the transitions therefor, it is believed that at least 100,000 tons at a cost of about $185,000 will be involved.

10. Portland cement concrete pavement work is proceeding on the West taxiway but is held up on the west end of the runway by failure of the contractor to place surcharge promptly, and somewhat by the presence of a duct line crossing the runway area. The architect-engineer has been requested to recommend whether the duct should be left in place or relocated. The problem has been under study for 8 weeks and a decision is expected 3 weeks from now. The time consumed in arriving at a decision has been caused by surcharge not being promptly placed as requested by the officer in charge of construction so that settlement readings could be made and evaluated by the engineer. Generally this pavement

item is dependent upon the phases of work outlined above but will be more susceptible to winter weather hazards than the others.

11. Field lighting during the month of August has developed into a major problem, particularly with respect to an informal report from the Bureau of Yards and Docks to the effect that the Bureau of Aeronautics may not supply lighting fixtures until February 1952.

12. The engineer is now processing contract drawings for runway and taxiway lighting, the cost of which work, due to revisions, will be increased by $65,000 to $75,000. The drawings are expected next week. In the meantime to avoid undue delay the contractor has been authorized to continue on substructure and duct work, based on the revised drawings, up to contract limitations.

13. If, however, lighting equipment, cable, and fixtures will not be available until February 1952 this officer believes that immediate steps must be taken to revise both the timetable and the scope of the present construction schedule and possibly the scope of the existing contract because lack of lighting materials will probably require localizing work to the east-west runway and taxiway until that strip is made operational.

14. It would appear that work on 1–19 and 5–23 runways cannot be undertaken until lighting materials are on the job without the grave risk of inadvertently closing down the entire field with resulting complications involved in upsetting long-range plans.

15. In conclusion it is this officer's considered opinion that subject project will have to be drastically curtailed August 30 unless authorization is given to continue the sand borrow, sand-pile drains, and bituminous paving items.

16. If the project is allowed to continue without interruption it is believed that physical completion of phase I, the east end of 10–28 runway, cannot be accomplished prior to January 19, 1952, a delay of 53 days and this subject to favorable conditions of every description, including availability of lighting materials.

17. Completion of phase II in turn is dependent upon the foregoing and the date on which runways 1–19 and 5–23 can be closed.

By direction: J. J. CASHMAN, Jr.

Mr. FURCOLO. The committee will recess until 2 o'clock.

AFTERNOON SESSION

Mr. FURCOLO. The committee will please come to order. Mr. Donnelly, we will continue from where we recessed at noontime today.

PROBLEMS ON NORFOLK CONTRACT

Mr. DONNELLY. Admiral, the committee staff studied the Norfolk contract thinking that it may illustrate that more decisive planning on the part of the service would result in better coordinated construction schedules and perhaps accomplish the completion without going into winter weather.

Do you want to make any comments about the Norfolk job?

Admiral JELLEY. I would like to say that both Norfolk in the Fifth Naval District, and San Diego in the Eleventh Naval District, had an especially large number of runway jobs hit them at the same time as a result of the various public works appropriation bills, so that undoubtedly the people in those districts who were most familiar with that type of construction were really rushed.

The Norfolk Air Station runways were a particularly difficult job due to poor foundation conditions. They have had trouble over the past 10 years with continual settling. We recognized that in the Bureau and our Bureau soils engineer made separate and independent tests to permit us to check the tests and recommendations that the engineers' employees made, so it was recognized that that was a particularly difficult job.

TIME FOR ADEQUATE PLANNING IS VITAL

Mr. DONNELLY. Time is important to your Bureau as the construction service in the matter of getting plans drawn for a job, awarding a contract, and then the actual construction operations themselves. Time is important, isn't it?

Admiral JELLEY. It is very important. If you have plenty of time, to draw your plans, make your decisions, write your specifications, you minimize the chances of trouble, delays, unforseen delays during construction. The more you reduce that time, the more you increase the chances of something going wrong on the job.

Mr. DONNELLY. This Norfolk operation and your comments on it furnish a good standard of comparison with what we will run into with the Air Force and the Corps of Engineers where there is an inordinately short period of time allowed the Corps of Engineers as the construction service to plan and do the work.

Admiral JELLEY. I would say on the basis of my experience that it would make the Corps of Engineers' job much more difficult if they were arbitrarily restricted in the amount of time they had to study and investigate a job, especially a difficult and complicated job. The larger, and more complicated the job is, the more time it takes to really go into it thoroughly and study it.

Mr. DONNELLY. Do the committee members have any questions on Norfolk?

ADVANCE PLANNING, BEFORE APPROPRIATION FOR CONSTRUCTION

Mr. DAVIS. Just this one question here: This seems to raise the question as to how far you can go before the funds are actually appropriated for the job. It looks here in this case as if you went at least a part of the way on faith. In other words on the certainty that the job was going to be done and that the money would eventually be appropriated for the job.

How far do you feel you can go under those circumstances?

Admiral JELLEY. In general, if an appropriation bill has passed the House and the Senate, and normally they go to conference, I would feel free—and if a particular project was one that had been approved in the same form by both the House and the Senate—I would feel free to request an invitation to bid.

Now you know every now and then the conferees disagree rather violently and instead of coming to an agreement in a day or 2 days, it may be a matter of a week or 2 weeks. Sometimes the President instead of signing the bill in 1 or 2 days, for some reason might take all of the time, I believe it is 10 days, he has to sign bills. Well, we might estimate that the money is going to be available within a week. If everything goes normally, but if something has happened that we didn't know about, it may be 3 weeks.

As far as going ahead with invitations to bid, I would want to know that the money was almost certain and that both the House and the Senate had indicated their approval in some manner such as the passage of the bill.

Now, if it was an item that was in disagreement; one that the House had in and the Senate had rejected, I would not send out a request for bids until I knew what was going to happen.

APPORTIONMENT OF FUNDS FOR NORFOLK CONTRACT

Mr. DAVIS. In view of the statement here that there was delay because of the time consumed in the apportionment of additional funds to finance this project, I would like to have the actual dates of the passage of those appropriation bills. Do you have those available? Evidently there were two appropriations involved in this contract.

Admiral JELLEY. No, I don't, but I will say that last year we had not had too much experience with apportionment and I think we were a little optimistic as to the amount of time required to get an apportionment. By now, I think that I would allow an average of 10 days to 2 weeks from the time the request has left the Bureau of Yards and Docks. It has to go through the Navy budget office, the Department of Defense budget office, to the Bureau of the Budget, and then back the same chain. Some of them have taken longer, some of them have taken shorter, but I would expect it to be 2 weeks to take care of that clearance of the apportionment.

There was another difficulty in the Norfolk job. The money was appropriated in at least two appropriations and maybe three.

Mr. GLENN. Two, I think.

Admiral JELLEY. So that we had, as I recall, a million dollars from an earlier appropriation bill, and $3 or $4 million additional in a second appropriation bill, so we were in a position to at least make some award on the contract, a million dollars worth when we issued the invitation to bid.

Mr. DAVIS. I am trying to piece this together.

Mr. GLENN. We had $4,600,000 under the second supplemental (Public Law 911, 81st Cong.).

Mr. DAVIS. Mr. Donnelly has given me a note here to indicate that the enactment of that law was January 6, 1951.

Admiral JELLEY. Then the delay was not caused by a delay in issuing the invitation prior to appropriation, it was prior to the apportionment?

Mr. GLENN. I do not have the date on the apportionment, but I believe that held us up in making the award.

Mr. DAVIS. You mean apportionment in this explanation, you actually mean the apportionment of funds within the Navy Department or at least within the Defense Department.

Admiral JELLEY. No, sir; the apportionment is made by the Bureau of the Budget. When the appropriation act is signed, the money is not available to us for expenditure unless the Bureau of the Budget apportions either all or a part of those appropriations. That applies to both annual and public-works funds. For example, I happen to recall the dates on the regular 1952 act which was passed late in October of last year. We could not spend any of that money until we had gotten the form from the Bureau of the Budget authorizing us to go ahead. Although $800,000,000 was appropriated, they gave us apportionments for I believe $575,000,000 and we have had to go back since December piecemeal requesting further apportionments on these public-works projects. So that the appropriation act has become a step in the process now. The final step before we get the money is the apportionment process.

Mr. DAVIS. I do not want to belabor this thing unduly, but I am trying to figure out just what happens here. Were the funds for this Norfolk Naval Air Station in the second supplemental which was enacted on January 6, 1951, and in the fourth supplemental which was enacted on May 31, 1951?

Mr. GLENN. No, sir. That million-and-some-odd dollars was included in a lump sum of $5 million for four or five locations. I think it was in the first supplemental, not the fourth.

Admiral JELLEY. In the regular bill. It was enacted in September, the prior September, either the regular 1951 bill or the first supplemental bill of 1951.

Mr. DAVIS. Both the general appropriation and first supplemental came in September then? Then you had all of the funds that are included in the roughly $5 million contract appropriated as of January 6, 1951?

Admiral JELLEY. Yes, sir.

Mr. DAVIS. That means then that so far as you could tell by reading the laws of Congress, you had all of the money for this project?

Admiral JELLEY. Yes, sir.

APPORTIONMENT DIFFICULTIES

Mr. DAVIS. But as a matter of fact, it took from January until I would judge by the explanation, until sometime in April or May before that money was actually apportioned out by the Bureau of the Budget?

Admiral JELLEY. One of the rules for getting these apportionments is that we have to be able to give the Bureau of the Budget firm estimates as to the extent of the project and the estimated cost. You recall some of that second supplemental money was justified in rather general terms. To protect the Government's interest, the Bureau of the Budget said, we won't give you an apportionment for the specific projects until we know that you have had time to decide exactly what you want to do and make a better estimate of cost than you had for the committee.

You will remember that second supplemental was prepared in a matter of a few weeks and considered very hurriedly by both the House and the Senate committees. I believe that basically the reason the committee included the apportionment provision was to make sure that these projects were well thought out, so we did not put in for apportionment until they completed their primary surveys and estimates at Norfolk. Undoubtedly it was in March sometime before we made our application to the Bureau of the Budget. In a few cases, I don't think it happened in this case, the Bureau of the Budget has wanted to see the amount of the bids before they will finally release the funds.

(NOTE.—The Bureau of the Budget and the Navy explanations for the apportionment for the Norfolk contract are as follows:)

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington 25, D. C., March 5, 1952.

RECORD OF AUTHORIZATION, APPROPRIATION, AND APPORTIONMENT ACTION IN CONNECTION WITH ADDITIONAL AVIATION FACILITIES AT NAVAL AIR STATION, NORFOLK, VA.

Items of construction: Parking areas for landplanes and seaplanes; dredging seadrome area; 2 seaplane ramps; seadrome lighting; fire-prevention system; hangar for painting aircraft; additional utilities.

Authorization: Enacted in the amount of $5,000,000 in Public Law 910 Eighty-first Congress on January 6, 1951.

Appropriation: Enacted in the amount of $5,000,000 in Public Law 911, Eighty-first Congress on January 6, 1951.

Apportionments

Requested of Bureau of the Budget		Approved by Bureau of the Budget	
Date	Amount	Date	Amount
Dec. 21, 1950 [1]	$150,000	Dec. 26, 1950	$150,000
Apr. 6, 1951 [2]	4,100,000	Apr. 27, 1951	4,100,000
May 24, 1951	515,000	May 31, 1951	515,000
June 29, 1951	109,000	June 29, 1951	109,000
Oct. 16, 1951 [3]	631,300	Oct. 24, 1951	631,300
Total	5,505,300	Total	5,505,300

[1] Advance planning money was requested and apportioned from existing unapportioned balances of prior appropriations in anticipation of the enactment of Public Law 911. Upon enactment of this appropriation, the funds were returned to the prior year available balance.

[2] This apportionment was one item in a total request involving about 110 different naval establishments. It was received by Bureau of the Budget during the period in which the regular military fiscal year 1952 budget was being processed, consequently 15 working days elapsed before final approval. However, it is to be noted that verbal clearance in advance of formal approval was given to 13 of these 110 installation requests where the Department of the Navy indicated that immediate action was necessary. The Navy did not so indicate in the case of this particular item.

[3] This apportionment includes a cost over-run of $505,300 which was approved in accordance with the provisions of sec. 403, title IV, Public Law 910, 81st Cong.

Items of construction: First increment of runway extensions and lighting for jet-aircraft operation.

Authorization: Enacted in the amount of $1,259,700 in Public Law 564, Eighty-first Congress on June 17, 1950.

Appropriation: Enacted in the amount of $1,196,715 in Public Law 759 Eighty-first Congress on September 6, 1950.

Apportionments

Requested of Bureau of the Budget		Approved by Bureau of the Budget	
Date	Amount	Date	Amount
Sept. 28, 1950	$62,325	Oct. 9, 1950	$62,325
Apr. 6, 1951	852,883	Apr. 27, 1951	852,883
May 24, 1951	107,671	May 31, 1951	107,671
Oct. 16, 1951	53,836	Oct. 24, 1951	53,836
Total	1,076,715	Total	1,076,715

Items of construction: Second increment of runway extensions and additional parking areas.

Authorization: Enacted in the amount of $2,266,000 in Public Law 155, Eighty-second Congress on September 27, 1951.

Appropriation: Enacted in the amount of $500,000 in Public Law 254, Eighty-second Congress on November 1, 1951.

Apportionment

Requested of Bureau of the Budget		Approved by Bureau of the Budget	
Date	Amount	Date	Amount
Dec. 4, 1951	$500,000	Dec. 5, 1951	$500,000

DEPARTMENT OF THE NAVY,
BUREAU OF YARDS AND DOCKS,
Washington 25, D. C., March 12, 1952.

JOHN J. DONNELLY, Esq.,
Counsel, Subcommittee on Military Construction,
Committee on Appropriations, House of Representatives,
Washington 25, D. C.

DEAR MR. DONNELLY: In accordance with your request, there is furnished herewith further data supplementing that given in the hearings and in letter of February 29, 1952, regarding contract NOy–27129, NAS, Norfolk.

The contract is financed from funds authorized under two authorization laws (Public Law 564, 81st Cong., and Public Law 910, 81st Cong.) and appropriated under two appropriation acts (Public Law 759, 81st Cong., and Public Law 911, 81st Cong.).

The portion of the project which was authorized under Public Law 564, Eighty-first Congress, and appropriated under Public Law 759, Eighty-first Congress, is a part of "Various locations—extension of runways for jet operations." The amounts applicable to Norfolk were $1,259,700 and $1,196,715 for authorization and appropriation, respectively.

The portion of the project authorized under Public Law 910, Eighty-first Congress, and appropriated under Public Law 911, Eighty-first Congress, was in the amount of $5,000,000 for both authorization and appropriation.

Enclosure (1) attached indicates the apportionment history with respect to the two Norfolk projects. It will be noted that, in both cases, the first apportionment was requested for architectural and engineering services and the second apportionment covered the balance of the 85 percent of estimated cost, the amount estimated by the Bureau as sufficient to permit the initial awards of contracts. The remainder (10 percent) was held for change orders and contingencies and 5 percent for contract administration and inspection and apportionment of such amounts was requested as the funds were needed.

Sincerely yours,

J. F. JELLEY,
Rear Admiral, CEC, USN,
Chief of Bureau.

Enclosure: Apportionment history.

Apportionment history

	Apportionment, Bureau Serial No.	Amount requested and approved	Date submitted	Dates of approval		
				Secretary of the Navy	Secretary of Defense	Bureau of the Budget
Release No. 281, Norfolk, Va.—Additional aviation facilities	No. 4, fiscal year 1951	$150,000	Dec. 15, 1950	Dec. 21, 1950	Dec. 21, 1950	Dec. 26, 1950
Authorization, Public Law 910, 81st Cong., $5,505,300 [1]	No. 9, fiscal year 1951	4,100,000	Mar. 6, 1951	Mar. 23, 1951	Apr. 4, 1951	Apr. 27, 1951
	No. 20, fiscal year 1951	515,000	May 16, 1951	May 22, 1951	May 24, 1951	May 31, 1951
Appropriation, Public Law 911, 81st Cong., $5,505,300 [1]	No. 36, fiscal year 1951	109,000	June 15, 1951	June 21, 1951	June 28, 1951	June 29, 1951
	No. 7, fiscal year 1952	631,300	Oct. 2, 1951	Oct. 4, 1951	Oct. 15, 1951	Oct. 24, 1951
		5,505,300				
Release No. 154, Norfolk, Va.—Extend runways for jet operations	No. 1, fiscal year 1951	62,325	Sept. 21, 1950	Sept. 25, 1950	Sept. 26, 1950	Oct. 9, 1950
	No. 9, fiscal year 1951	852,883	Mar. 6, 1951	Mar. 23, 1951	Apr. 4, 1951	Apr. 27, 1951
Authorization, Public Law 564, 81st Cong., $1,259,700	No. 20, fiscal year 1951	107,671	May 16, 1951	May 22, 1951	May 24, 1951	May 31, 1951
Appropriation, Public Law 759, 81st Cong., $1,076,715 [2]	No. 7, fiscal year 1952	53,836	Oct. 2, 1951	Oct. 4, 1951	Oct. 15, 1951	Oct. 24, 1951
		1,076,715				

[1] Includes $505,300 transferred from Mayport, Fla., and Fentress, Va., in amounts of $143,300 and $362,000, respectively.
[2] Balance after transfer of $120,000 to Davisville, R. I. Amount appropriated was $1,196,715 under Public Law 759, 81st Cong.

DEPARTMENT OF THE NAVY,
BUREAU OF YARDS AND DOCKS,
Washington 25, D. C., April 3, 1952.

JOHN J. DONNELLY, Esq.,
Counsel, Subcommittee on Military Construction,
Committee on Appropriations, House of Representatives,
Washington, D. C.

DEAR MR. DONNELLY: In accordance with your request, there is furnished herewith additional information supplementing that given in the hearings and recapitulating letter of February 29, 1952, pertaining to contract NOy–27129, NAS Norfolk.

The contract was financed from funds authorized under both Public Law 564, Eighty-first Congress, and Public Law 910, Eighty-first Congress, and appropriated under the appropriation acts of Public Law 759, Eighty-first Congress, and Public Law 911, Eighty-first Congress:

(*a*) Public Law 564, Eighty-first Congress, authorized $3,820,000 for various locations, extension of runways for jet operations; Public Law 759, Eighty-first Congress, appropriated $3,629,000 and of these funds $235,393.50 was used in part financing of contract NOy–27129, NAS Norfolk.

(*b*) Public Law 910, Eighty-first Congress authorized $5,505,300 and the appropriation act, Public Law 911, Eighty-first Congress, appropriated $4,600,000 for airfield pavements and $400,000 for utilities at NAS Norfolk. Of the $5,000,000 appropriated under Public Law 911, Eighty-first Congress, funds in amount of $4,568,817.05 were used in part financing of contract NOy–27129.

The total of the moneys used, $4,804,210.55 authorized and appropriated as above stated, financed NOy–27129, NAS Norfolk.

At the time of the bid openings May 3, 1951, funds available from apportioned moneys for the award of contract NOy–27129 totaled $4,191,861.50. In justification for the amount apportioned believed to be sufficient to cover the award of said contract, enclosure 1, an estimated cost price received from the District Public Works Office, Fifth Naval District, is submitted. Further justification is enclosure 2, a letter stating that there was nothing in evidence in either the DPWO, Fifth Naval District office or the Architect and Engineer's Office that would change the estimate cost shown on enclosure 1.

Enclosure 3 attached gives the chronological report of the apportionment of funds to cover the award of contract NOy–27129.

The information given your investigators as to the preliminary estimate contract NOy–27129 of $4,856,032.75 is the amount of funds believed by the District Public Works Officer, Fifth Naval District to be available for the contract and appears in a letter of May 8, 1951, from the DPWO, Fifth Naval District to Chief, Bureau of Yards and Docks.

The later estimate of $5,637,901.55 is the figure that the DPWO, Fifth Naval District believed the contract would cost as of August 1952, said figure being made up of the original contract award, change orders, and estimated future change orders.

The figure of $5,637,901.55 would approximate the $6,000,000 estimate given your committee investigators by a representative of the Fifth District DPWO Office.

Sincerely yours,

J. J. CHEW,
Captain (CEC) USN
(By direction).

Enclosures: (1) Estimated cost price; (2) Spdltr NOy–27129/(D–25)bng; (3) report of apportionment.

NAVAL SPEEDLETTER

APRIL 12, 1951.

In reply refer to: NOy–27129/(DB–100).
To: Chief, Bureau of Yards and Docks, Navy Department, Washington 25, D. C. (Attention: B–316).
Ref.: (a) BUDOCKS ltr B–310A/BJK:hsm over L4–3 of February 5, 1951.

In compliance with reference (a) the following information is submitted relative to the assignment of NOy contract and specification numbers by this office for work to be accomplished at the Naval Air Station, Norfolk, Va.:

NOy No.	Specification No.	Title	Estimated contract price
27129	29106	Extension of E-W runway	$4,150,000

X. S. HUTCHINS,
District Public Works Officer, Fifth Naval District,
Naval Base, Norfolk, Va.

Copies to CO NAS NORVA.

Classification: Unclassified.
In reply refer to: NOy-27129/(D-25)bng.
Date: March 27, 1952 (March 28, 1952).
To: Chief, Bureau of Yards and Docks, Navy Department, Washington, D. C. (Attention C-220.)

This will confirm telcon with Commander T. J. Dumont March 27, 1952, with reference to contract NOy-27129, Extension of east-west runway, Naval Air Station, Norfolk, Va.

There is no record on file, either in the Public Works Office, 5ND, or the architect-engineer's office, which reflects formal submission of engineer's estimate of cost of the subject project.

Engineering was accomplished by O. J. Porter Urquhart, Associated, under contract NOy-24620.

H. P. NEEDHAM,
Captain, CEC, USN, District Public Works Officer, Fifth Naval District,
Norfolk 11, Va.

Funds apportioned from Public Law 564, 81st Cong., prior to May 3, 1951	$133,721.50
Funds apportioned from Public Law 911, 81st Cong., prior to May 3, 1951	4,058,140.00
Funds available for award of contract NOy-27129 at bid opening	4,191,861.50
Funds unapportioned as of May 3, 1951:	
Public Law 564, 81st Cong	107,671.00
Public Law 911, 81st Cong	515,000.00
Total	622,671.00
Apportionment requested May 16, 1951, for $622,671:	
Apportionment approved May 31, 1951:	
Contract award amount	4,804,210.55
Apportioned funds as of May 3, 1951	4,191,861.50
Total	612,349.05

NOTE.—Funds in the amount of $612,349.05 of the May 16, 1951, apportionment request of $622,671 were used with previous apportioned moneys to make NOy-27129 contract award.

DISADVANTAGES OF APPORTIONMENT SYSTEM

Mr. DAVIS. I wonder—I think you can judge what my thoughts are—I wonder what your comment would be on the condition under which it is thought out well enough to expect Congress to be able to judge how much money the Department of Defense needs but it isn't well thought out enough for the Bureau of the Budget to apportion the funds for several months thereafter.

Admiral JELLEY. It is not a good situation and I think it tied in directly to the circumstances under which the second supplemental funds were appropriated. The committee realized and I believe the

chairman, Mr. Mahon's remarks indicated, that the committee didn't have time to give the thorough review that the projects justified, but on account of the changed situation in Korea, they were going ahead with a very—well, a much less thorough study than the committee usually put on them. I do not think that applies—applied—to the 1952 program, but we still have apportionment with us.

APPORTIONMENT OF MILITARY CONSTRUCTION FUNDS FOR REGULAR FISCAL 1952

Mr. DAVIS. What experience have you had with this military construction appropriation that was rushed—and I use that term very correctly, I believe—last September? What has happened to that money? Has there been a similar lag with that as far as apportionment for actual use has been conerned?

Admiral JELLEY. We got three-quarters of it rather promptly. The Bureau of the Budget acted rather promptly.

Mr. DAVIS. Be a little more specific on "promptly."

Admiral JELLEY. Well, it was cleared within 2 weeks after we had made the request. We took some time to make the request; we took 3 weeks to draw it up so we were sure everything was in order, but the Bureau of the Budget approved it rather promptly. Some of the items they wanted to go into further. For example, they wanted to reexamine the Naval Reserve air station program. That was only released within the last 2 weeks. They wanted to reexamine the Navy housing program. And I am not so sure, but I don't think that money has yet been released.

You will recall on at least two of the locations for hospitals, Norfolk and San Pedro, we didn't have definite locations for the committee. We said they were going to be in the Norfolk area and on Government-owned land in the San Pedro area, and the Bureau of the Budget said, "As soon as you know the exact spot you want, we will then consider reapportionment."

Do you recall any other projects, Mr. Patterson?

Mr. PATTERSON. We still have most of the difference from $575 million originally apportioned and the $800 million appropriated that is being requested in little pieces. It will be summer or later before we can get the balance apportioned. As you say, the reserve air stations, the housing, the community facilities, as we call that lumped item of commissaries, theaters, and so on, have not been released except for one project, I think. The "community facilities" has been over about twice now and they have not released the money.

Mr. DAVIS. You are speaking of funds in the last September bill?

Mr. PATTERSON. 1952.

APPORTIONMENT OF FUNDS FROM SECOND SUPPLEMENTAL, 1951

Mr. DAVIS. Now, has practically all of the money for the Navy in the second supplemental—that is of January 1951—has that been practically all apportioned up to this date?

Admiral JELLEY. Apportioned and obligated. It was almost completely obligated by September 1 of last year. I think I have the figures here on that.

Mr. DAVIS. Off the record.

(Discussion off the record.)

Mr. DAVIS. Back on the record.

Is it true, Admiral, that the Bureau of the Budget approved your request for funds before it was presented to the Congress as the basis for the second supplemental appropriation bill?

Admiral JELLEY. Yes, sir.

Mr. DAVIS. Do you recall how much variation there was in the amount that the Bureau of the Budget approved and the amount which the Congress actually appropriated for Navy public works in that second supplemental?

Admiral JELLEY. No, I don't. I don't recall whether any projects were eliminated in the Bureau of the Budget review or not. It will be a matter of record, I believe, and we can determine from the files the answer to your question. I do not recall. There have been so many supplementals and regular appropriations in the last year or so I don't remember that one specifically.

Mr. DAVIS. May I ask, then, that there be furnished for the record at this point these figures: First, the amount which the Navy requested of the Bureau of the Budget; secondly, the amount which the Bureau of the Budget approved; thirdly, the amount that was actually appropriated by the Congress.

Admiral JELLEY. The second supplemental 1951?

Mr. DAVIS. January 6, 1951, was the date that this memo says it was enacted. In order that the committee may be informed as to the effect of the actual release and reapportionment of appropriated money by the Bureau of the Budget, may I ask you to further submit for the record at this point a table showing a list of the Navy construction projects included in the second supplemental and a chronological listing of the reapportionment of those funds and their release to the Navy for actual construction.

Admiral JELLEY. To complete that, don't you think the date of obligation would give you the complete picture?

Mr. DAVIS. If you would include that, I think it would be very helpful.

Admiral JELLEY. It would show whether we obligated the next day or 2 months later; that is, the date of obligation for each project.

Mr. FURCOLO. That will be inserted in the appendix to the record.

(NOTE.—The information requested is printed in the appendix at p. 363.)

APPORTIONMENT SYSTEM—CONTROL BY BUREAU OF BUDGET OVER APPROPRIATED FUNDS

Mr. DAVIS. In your opinion, Admiral, is this control over apportionment of funds exercised by the Bureau of the Budget for this supplemental bill and as illustrated by the allotment of funds for the naval air station at Norfolk in accordance with your experience?

Admiral JELLEY. To the best of my knowledge, the apportionment process as it applied to the specific project for the air station at Norfolk was the usual one.

Mr. DAVIS. When you use the word "usual" are you referring to your experience in a relatively short space of time or over a period of quite a number of years?

Admiral JELLEY. We have only had experience with the apportionment system for about a year.

Mr. DAVIS. Is that "apportionment system," as you use the term, based on Executive decree or legislation of Congress?

Admiral JELLEY. I believe it is based on legislation of the Congress. It may have been inaugurated as a result of the so-called legislative reforms which set up the legislative and fiscal budget and the single over-all budget. It may be that that is when apportionment was initiated. But, as I recall, it is now one of the clauses in the appropriation act.

Mr. DAVIS. As a general proposition, your experience has been that the Bureau of the Budget has exercised a greater control over the actual allocation of funds within the last 1 or 2 years than they had previously exercised?

Admiral JELLEY. Yes, sir.

Mr. FURCOLO. Then at that point the staff will check with the Bureau of the Budget and have the Bureau of the Budget submit to us, to be inserted in the record at this point, a summary of their authorization for such action.

Mr. DAVIS. Mr. Chairman, if that could be done, I believe it would be very appropriate.

Mr. FURCOLO. We will see how much the staff can do on that and what can be accomplished and inserted in the record at that point.

(The information requested is as follows:)

The General Appropriation Act, 1951, enacted September 6, 1950, revised the statutory provisions relating to apportionment by the executive department of appropriated funds, by providing in section 1211 as follows:

" 'SEC. 1211. Section 3679 of the Revised Statutes, as amended (31 U. S. C. 665), is hereby further amended to read as follows:

" 'SEC. 3679. (a) No officer or employee of the United States shall make or authorize an expenditure from or create or authorize an obligation under any appropriation or fund in excess of the amount available therein; nor shall any such officer or employee involve the Government in any contract or other obligation, for the payment of money for any purpose, in advance of appropriations made for such purpose, unless such contract or obligation is authorized by law.

" '(b) No officer or employee of the United States shall accept voluntary service for the United States or employ personal service in excess of that authorized by law, except in cases of emergency involving the safety of human life or the protection of property.

" '(c) (1) Except as otherwise provided in this section, all appropriations or funds available for obligation for a definite period of time shall be so apportioned as to prevent obligation or expenditure thereof in a manner which would indicate a necessity for deficiency or supplemental appropriations for such period; and all appropriations or funds not limited to a definite period of time, and all authorizations to create obligations by contract in advance of appropriations, shall be so apportioned as to achieve the most effective and economical use thereof. As used hereafter in this section, the term "appropriation" means appropriations, funds, and authorizations to create obligations by contract in advance of appropriations.

" '(2) In apportioning any appropriation, reserves may be established to provide for contingencies, or to effect savings whenever savings are made possible by or through changes in requirements, greater efficiency of operations, or other developments subsequent to the date on which such appropriation was made available. Whenever it is determined by an officer designated in subsection (d) of this section to make apportionments and reapportionments that any amount so reserved will not be required to carry out the purposes of the appropriation concerned, he shall recommend the rescission of such amount in the manner provided in the Budget and Accounting Act, 1921, for estimates of appropriations.

" '(3) Any appropriation subject to apportionment shall be distributed by months, calendar quarters, operating seasons, or other time periods, or by activities, functions, projects, or objects, or by a combination thereof, as may be

deemed appropriate by the officers designated in subsection (d) of this section to make apportionments and reapportionments. Except as otherwise specified by the officer making the apportionment, amounts so apportioned shall remain available for obligation, in accordance with the terms of the appropriation, on a cumulative basis unless reapportioned.

"'(4) Apportionments shall be reviewed at least four times each year by the officers designated in subsection (d) of this section to make apportionments and reapportionments, and such reapportionments made or such reserves established, modified, or released as may be necessary to further the effective use of the appropriation concerned, in accordance with the purposes stated in paragraph (1) of this subsection.

"'(d) (1) Any appropriation available to the legislative branch, the judiciary, or the District of Columbia, which is required to be apportioned under subsection (c) of this section, shall be apportioned or reapportioned in writing by the officer having administrative control of such appropriation. Each such appropriation shall be apportioned not later than thirty days before the beginning of the fiscal year for which the appropriation is available, or not more than thirty days after approval of the Act by which the appropriation is made available, whichever is later.

"'(2) Any appropriation available to an agency, which is required to be apportioned under subsection (c) of this section, shall be apportioned or reapportioned in writing by the Director of the Bureau of the Budget. The head of each agency to which any such appropriation is available shall submit to the Bureau of the Budget information, in such form and manner and at such time or times as the Director may prescribe, as may be required for the apportionment of such appropriation. Such information shall be submitted not later than forty days before the beginning of any fiscal year for which the appropriation is available, or not more than fifteen days after approval of the Act by which such appropriation is made available, whichever is later. The Director of the Bureau of the Budget shall apportion each such appropriation and shall notify the agency concerned of his action not later than twenty days before the beginning of the fiscal year for which the appropriation is available, or not more than thirty days after the approval of the Act by which such appropriation is made available, whichever is later. When used in this section, the term "agency" means any executive department, agency, commission, authority, administration, board, or other independent establishment in the executive branch of the Government, including any corporation wholly or partly owned by the United States which is an instrumentality of the United States. Nothing in this subsection shall be so construed as to interfere with the initiation, operation, and administration of agricultural price support programs and no funds (other than funds for administrative expenses) available for price support, surplus removal, and available under section 32 of the Act of August 24, 1935, as amended (7 U. S. C. 612 (c)), with respect to agricultural commodities shall be subject to apportionment pursuant to this section. The provisions of this section shall not apply to any corporation which obtains funds for making loans, other than paid in capital funds, without legal liability on the part of the United States.

"'(e) (1) No apportionment or reapportionment which, in the judgment of the officer making such apportionment or reapportionment, would indicate a necessity for a deficiency or supplemental estimate shall be made except upon a determination by such officer that such action is required because of (A) any laws enacted subsequent to the transmission to the Congress of the estimates for an appropriation which require expenditures beyond administrative control; or (B) emergencies involving the safety of human life, the protection of property, or the immediate welfare of individuals in cases where an appropriation has been made to enable the United States to make payment of, or contributions toward, sums which are required to be paid to individuals either in specific amounts fixed by law or in accordance with formulae prescribed by law.

"'(2) In each case of an apportionment or a reapportionment which, in the judgment of the officer making such apportionment or reapportionment, would indicate a necessity for a deficiency or supplemental estimate, such officer shall immediately submit a detailed report of the facts of the case to the Congress. In transmitting any deficiency or supplemental estimates required on account of any such apportionment or reapportionment, reference shall be made to such report.

"'(f) (1) The officers designated in subsection (d) of this section to make apportionments and reapportionments may exempt from apportionments trust funds and working funds expenditures from which have no significant effect on the financial operations of the Government, working capital and revolving funds

established for intragovernmental operations, receipts from industrial and power operations available under law and any appropriation made specifically for—

"'(1) interest on, or retirement of, the public debt;

"'(2) payment of claims, judgments, refunds, and draw-backs;

"'(3) any item determined by the President to be of a confidential nature;

"'(4) payment under private relief Acts or other laws requiring payments to designated payees in the total amount of such appropriation;

"'(5) grants to the States under title I, IV, or X of the Social Security Act or under any other public assistance title in such Act.

"'(2) The provisions of subsection (c) of this section shall not apply to appropriations to the Senate or House of Representatives or to any Member, committee, office (including the Office of the Architect of the Capitol), officer, or employee thereof.

"'(g) Any appropriation which is apportioned or reapportioned pursuant to this section may be divided and subdivided administratively within the limits of such apportionments or reapportionments. The officer having administrative control of any such appropriation available to the legislative branch, the judiciary or the District of Columbia, and the head of each agency, subject to the approval of the Director of the Bureau of the Budget, shall prescribe, by regulation, a system of administrative control (not inconsistent with any accounting procedures prescribed by or pursuant to law) which shall be designed to (A) restrict obligations or expenditures against each appropriation to the amount of apportionments or reapportionments made for each such appropriation, and (B) enable such officer or agency head to fix responsibility for the creation of any obligation or the making of any expenditure in excess of an apportionment or reapportionment.

"'(h) No officer or employee of the United States shall authorize or create any obligation or make any expenditure (A) in excess of an apportionment or reapportionment, or (B) in excess of the amount permitted by regulations prescribed pursuant to subsection (g) of this section.

"'(i) (1) In addition to any penalty or liability under other law, any officer or employee of the United States who shall violate subsection (a), (b), or (h) of this section shall be subjected to appropriate administrative discipline, including, when circumstances warrant, suspension from duty without pay or removal from office; and any officer or employee of the United States who shall knowingly and, willfully violate subsection (a), (b), or (h) of this section shall, upon conviction be fined not more than $5,000 or imprisoned for not more than two years, or both.

"'(2) In the case of a violation of subsection (a), (b), or (h) of this section by an officer or employee of an agency, or of the District of Columbia, the head of the agency concerned or the Commissioners of the District of Columbia, shall immediately report to the President, through the Director of the Bureau of the Budget, and to the Congress all pertinent facts together with a statement of the action taken thereon.' "

Cecil and Barrancas (Now Forrest Sherman) Fields, Fla.

Mr. Donnelly. The next specific project or group of projects that the committee staff gave attention to was the construction of two auxiliary airfields, one outside of Pensacola at Fort Barrancas and the other outside of Jacksonville at a place called Cecil Field. As I understand, the Sixth Naval District had charge of both, out of Charleston, S. C., and Captain Eckberg was in charge of construction and district public-works officer; so, he had charge of both; and the time sequence of the construction operations was closely related.

Admiral Jelley. I think Cecil Field was a little ahead of Barrancas; but, in general, they were under construction at about the same time.

(Discussion off the record.)

Mr. Donnelly. Now, on time sequence, the information that I have here is that at Cecil Airfield the work began on June 22, 1951, under contract NOy–27261, and at Barrancas Field the work began July 23, 1951, 1 month later, on contract NOy–28531. The things

that were particularly interesting were the treatment by the Sixth Naval District, and by the resident officer in charge of construction at each of the two fields, of two items; that is (1) whether the pipe should be corrugated metal pipe or reinforced concrete pipe, and (2) the question of whether steel mesh should be placed throughout the runways at each of the two places.

CORRUGATED METAL PIPE VERSUS REINFORCED CONCRETE PIPE

Mr. DONNELLY. Now, on the pipe item at Cecil Field, corrugated metal pipe was used, and I think that this information which we have developed will show that if that type of pipe had been used at Barrancas with the same type of construction operation and the same problems, $200,000 would have been saved. That is what I am going to try to develop going through these papers.

The plans and specifications for Cecil Field originally provided for either type of pipe, and the plans showed two pipe dimensions, one for reinforced concrete pipe, and a larger diameter if corrugated metal pipe were used. Then the resident officer in charge of construction, having economy in mind, put an addendum out making it possible for a bidder to use either type of pipe of the same size, so that, if he bid and was successful, he could use a corrugated metal pipe of same diameter as the reinforced concrete pipe. The admiral is nodding his agreement to this summary of what happened. That was addendum No. 4.

Then, the Sixth Naval District Command at Charleston require a deletion of addendum No. 4 and that in turn required the Navy to pay, as it turned out, $135,000 additional for the pipe.

Admiral JELLEY. How many dollars?

Mr. DONNELLY. $135,000.

First, let me put in the record addendum No. 4.

(Addendum No. 4 is as follows:)

[NavDocks Specification No. 29405—Addenum No. 4]

DEPARTMENT OF THE NAVY

BUREAU OF YARDS AND DOCKS

RUNWAYS, TAXIWAYS, AND APRONS AT THE NAVAL AUXILIARY AIR STATION, CECIL FIELD, FLA.

SECTION 1. General clauses.

1–08. *Drawings accompanying specifications.*—On drawings Y. & D. Nos. 499333 to 499347, inclusive, where sizes of concrete pipes and corrugated metal pipes are shown, for all concrete pipes shown on the drawings as over 36 inches diameter, the sizes of the corresponding corrugated metal pipes shown on the drawings shall be reduced to be the same diameters as the concrete pipes.

For all concrete pipes shown on the drawings as 36 inches, and under, diameter, the sizes of the concrete pipes and the corresponding corrugated metal pipes shown on the drawings shall remain unchanged.

NOTE.—Prints of revised drawings will not be issued at this time, but drawings will be revised and new prints issued after award of contract.

* * * * * * *

UNITED STATES NAVAL BASE,
Charleston, S. C., June 1, 1951.

W. E. THOMPSON
(For W. T. Eckberg, Captain, CEC, USN, District Public Works Officer, Sixth Naval District).

Mr. DONNELLY. Admiral, with respect to this addendum No. 4, would it be fair to say that the officer who issued this addendum was doing it for the purpose of economy?

Admiral JELLEY. I would say the addendum was issued because the design people felt that the pipe as specified, either concrete or corrugated metal, would adequately do the job of carrying away rain water. Whether he specifically had economy in mind or not, I do not know. I would assume that he had, that he felt he was specifying something of equal utility that can be had at a cheaper price, although there is quite a bit of variation between the two types. Sometimes they are approximately equal in cost and application, mostly as a result of supply and demand.

Mr. DONNELLY. Can we establish for the record whether the corrugated metal pipe is not considerably cheaper than the same diameter of reinforced concrete pipe?

Mr. POTBURY. I would say, yes.

Mr. DONNELLY. Then the next development was, as I understand, an objection by the Bureau of Yards and Docks in Washington which sent a dispatch to Captain Eckberg by whom the addendum No. 4 had been signed and changed that requirement. I have here a copy of Captain Eckberg's reply. I would like to put that in the record.

(The letter referred to is as follows:)

[Naval speedletter]

JUNE 25, 1951.

CHIEF, BUREAU OF YARDS AND DOCKS,
Navy Department, Washington 25, D. C.:

NOy–27261, runways, taxiways, and aprons, NAAS, Cecil Field, Fla.: In view of your dispatch 231301Z June requiring that corrugated metal drainage pipes be of sizes shown on basic drawings and specifications in lieu of same sizes as concrete pipe for sizes greater than 36 inches as permitted by addendum No. 4 to Specification 29405, it is recommended that the Bureau set aside in reserve the sum of $75,000 to cover anticipated change order additional cost for larger-sized corrugated metal pipes.

W. T. ECKBERG,
District Officer in Charge of Construction, 6 ND,
P. O. Box 365, Naval Base, S. C.

Mr. DONNELLY. Admiral, I didn't ask to be put in the record your dispatch 231301Z June because it is considerably difficult for a layman to understand, but I understand the purport of it to be to require Captain Eckberg to reinsert the original requirement of a larger diameter for the corrugated metal pipe.

Mr. FURCOLO. Would you agree with that interpretation?

Admiral JELLEY. Yes; if you read the only applicable part from dispatch 231301Z. I think it is quite plain if you read the applicable sentence:

> The OICC shall appoint a board on change in accordance with CAM (the Contract Administration Manual) to determine cost of a change order for pipe sizes exceeding 36 inches, if the contractor elects to use corrugated metal pipe in lieu of concrete pipe.

Mr. DONNELLY. The next document we have is a memo from Captain Eckberg as the district officer in charge of construction to the resident officer in charge of construction at Cecil Field. I would like to put that in the record.

Mr. FURCOLO. That will be put in the record at this point.

(The letter referred to is as follows:)

NAVY DEPARTMENT,
DISTRICT PUBLIC WORKS OFFICE AND
OFFICER IN CHARGE OF CONSTRUCTION,
SIXTH NAVAL DISTRICT,
Naval Base, South Carolina, June 26, 1951.

From: District officer-in-charge of construction, Sixth Naval District.
To: Resident officer-in-charge of construction, Box 5, United States Naval Air Station, Jacksonville, Fla.
Subject: NOy–27261 runways, parking aprons, and taxiways, NAAS Cecil Field, Florida, proposed change order for pipe sizes of drainage system.
Reference: (*a*) BuDocks dispatch 231301Z June 1951.
Enclosure: (1) 2 cys Armco Drainage and Metal Products, Inc., letter of June 22, 1951, to DPWO 6ND.

1. Reference (*a*) indicated that after subject contract had been awarded it would be necessary to negotiate a change order with the contractor to provide drainage pipes of the sizes shown on the basic plans and specifications, either concrete or corrugated metal, rather than allow the contractor to install corrugated metal pipe in sizes greater than 36 inches of the sizes indicated in addendum No. 4 to subject contract and specifications. This change in pipe sizes will probably result in a considerable increase in contract price.

* * * * * * *

W. T. ECKBERG.

Mr. DONNELLY. The dispatch referred to by Captain Eckberg required a change in the contract provisions as a result of the deletion of addendum No. 4. Is that accurate, Admiral?

Admiral JELLEY. Yes, sir.

Mr. FURCOLO. It refers to a considerable increase in the contract price.

Mr. DONNELLY. As we will see in time, the increase turned out to be $135,000.

The next document is a memo of July 6, 1951, from the resident officer in charge of construction at Jacksonville back to Captain Eckberg with respect to discussing with the contractors' representatives the increase in price, and I would like to offer this for the record.

Mr. FURCOLO. That may be inserted in the record at this point.

(The memorandum is as follows:)

JULY 6, 1951.

From: Resident officer in charge of construction, NAS, Jacksonville, Fla.
To: District officer in charge of construction, Sixth Naval District, Naval Base Charleston, Naval Base, S. C.
Subject: Contract NOy–27261 airfield improvements, NAAS, Cecil Field, Florida; proposed items to be included in change order.
Reference:
(*a*) OinCC 6nd ltr Code DB–101 of July 3, 1951, to L. G. Defelice & Son, Inc., re changes in runway pavement.
(*b*) OinCC 6ND ltr Code DB–101 of July 3, 1951, to L. G. Defelice & Son, Inc., re change in drainage pipe.
(*c*) BuOrd FIRST END Es3a–RES:cwm NA29 of 2 July 1951 on COMNAB 6ND ltr NAB6/N1–CF WTM:kl ser 721 of April 20, 1951, to BuAer via BuOrd.

* * * * * * *

3. A copy of reference (*b*) was read to the contractor's representatives and they were requested to state which type drainage pipe they had proposed to use under their original bid. They replied to the effect that in view of the issuance of addendum 4 to the specification, which permitted a reduction in sizes of corrugated metal pipe corresponding to concrete pipe in the case of all sizes of concrete pipe over 36 inches in diameter, they had based their bid upon furnishing concrete pipe for all sizes up to and including 36 inches; but that they had proposed to furnish corrugated metal pipe for all sizes corresponding to concrete pipe in excess of 36 inches in diameter. The contractor's representatives were then asked to state

which type of pipe they would now propose to install under the instructions to the effect that addendum 4 would be canceled. They requested to defer their reply until they had an opportunity to make comparative cost estimates of the two types of piping. This office then asked them to accompany their reply to reference (*b*) with breakdown cost estimates based on both types of pipe material and also to furnish the resident officer in charge of construction with copies of these estimates for further consideration by the board on changes. The contractor's representatives stated that the cost estimates would be submitted within about 10 days.

* * * * * * *

Mr. FURCOLO. I think it would be helpful for the record, if there are not any more documents to be inserted right now, if counsel would summarize very briefly what these three or four documents were and then have the admiral agree if that is the situation, or not, so in four or five lines we might have the purport of the whole matter, which I assume is what you have in mind.

Mr. DONNELLY. That is right, Mr. Chairman, but may I modify it to the extent of inserting a couple more documents?

Mr. FURCOLO. Do it in your own way in your own time.

Mr. DONNELLY. As a result of these discussions, the contractor submitted two different prices by way of price increasing, one in the amount of $262,000 if he were to use the reinforced concrete pipe; and the other in the amount of $135,000 for larger diameter corrugated metal pipe.

Mr. FURCOLO. These excerpts may be inserted in the record at this point.

(The documents referred to are as follows:)

ESTIMATE FOR CHANGE ORDER

17 JULY 1951.

NOy-27261 Spec. 29405

Change Description: Estimate of Increased Costs occasioned by use of R. C. P. for sizes above 36" diameter.

* * * * * * *

15. Total $262,977.93

ESTIMATE FOR CHANGE ORDER

17 JULY 1951.

NOy-27261 Spec. 29405

Change Description: Deletion of Addendum No. 4

* * * * * * *

15. Total $135,606.66

Mr. DONNELLY. The next one we have is a copy of the pertinent paragraph of the change order which we would like to put in the record at this point.

Mr. FURCOLO. That may be inserted in the record at this point. Showing an estimate of $35,000 to be added.

(The document referred to is as follows:)

CONTRACT NOy-27261—RUNWAYS, TAXIWAYS, AND APRONS, CECIL FIELD, FLORIDA

CHANGE A (PENDING) [1]

ITEM 1. Change of pipe size of all corrugated metal pipe larger than 36 inches in diameter. Addendum No. 4 changed pipe sizes of corrugated metal pipe above 36 inches in diameter from that shown on the plan, to same size of concrete pipe for the same location. BuDocks dispatch 231301Z June 1951 to DPWO directed that the original sizes of CMP pipe be used in lieu of that specified by addendum 4. Estimated change in contract price, add $135,000.

[1] STAFF NOTE.—This data was supplied by the Sixth Naval District.

COST INCREASE OF $135,000 FOR METAL PIPE STILL LESS THAN COST OF CONCRETE PIPE

Mr. DONNELLY. Now to summarize the documents that we have here, when the plans and specifications were first out, with the invitations to bid, the contractor had his choice of bidding on reinforced concrete pipe or corrugated metal pipe, but if he chose to use corrugated metal pipe above 36 inches in diameter, he had to use a larger diameter of the metal pipe. Is that right, Admiral?

Admiral JELLEY. Yes.

Mr. DONNELLY. And the Sixth Naval District struck out the alternate requirement with the effect that the contractor could furnish the same diameter of the metal pipe as the reinforced concrete pipe. Is that right, sir?

Admiral JELLEY. Yes.

Mr. DONNELLY. Then BuDocks in Washington required that if metal pipe were used, that a greater diameter would have to be used for the concrete pipe.

Admiral JELLEY. As originally specified before the issuance of addendum 4.

Mr. DONNELLY. Went back to the original requirements, which meant that actually the Navy, because of the perhaps hasty—and I don't want to use that word if it is not accurate—issuance of addendum 4, spent $135,000 extra for the pipe.

Admiral JELLEY. I think that is an accurate statement.

PIPE SITUATION AT BARRANCAS FIELD

Mr. DONNELLY. Now, the reason I have gone into such detail is this: At the other field, Barrancas, we had a situation at the same time or about the same time and the matter of pipe came up there. At Barrancas the plans and specifications did not even consider the metal pipe, which is cheaper, but specified reinforced concrete pipe. And my premise will be this: that if, at Barrancas, the resident officer had used the metal pipe, as was done at Cecil Field (even with the increase of $135,000), he would have saved the Government at Barrancas $200,000 for pipe alone. And we get that by computing 40,000 linear feet of reinforced concrete pipe at Barrancas, at $5.05 a linear foot, or a possible saving of $200,000.

Now the question that has occurred to us is this: Captain Eckberg had over-all supervision over both jobs, at Cecil and at Barrancas. And if a saving of $200,000 could have been accomplished, through

coordination of the two construction jobs through his over-all supervision of both, by prescribing metal pipe, wouldn't it follow that Captain Eckberg might possibly have considered the matter and specified the metal pipe?

Admiral JELLEY. In the first place, I think that you cannot hold Captain Eckberg responsible because at Pensacola another officer is officer in charge of construction; although Captain Eckberg takes recommendations and prepares and signs contracts for Pensacola, the actual officer in charge of construction is a staff engineer on the Air Training Command. I think it was not the responsibility of Eckberg, it was the responsibility of the Bureau of Yards and Docks who supervised both Captain Eckberg as officer in charge of contracts and Commander Robinson who was in charge of construction at Pensacola at that time.

I would rather say that we were responsible here in Washington rather than Captain Eckberg in Charleston.

Mr. DONNELLY. I don't want to single him out by name—it was just convenient, rather than to use a title—but somewhere in line of command it occurred to us that there might have been a coordination between the two commensurate jobs.

Now, to show that attention was given to the possibility of using metal pipe at Barrancas, we have here a copy of a letter signed by the architect-engineer dealing with the question of whether metal pipe could not have been used in the larger diameter. The architect-engineer who drew the plans was——

Admiral JELLEY. Palmer & Baker, Inc., Mobile.

Mr. DONNELLY. This is a month before the work began at Barrancas. May this go in the record, Mr. Chairman?

Mr. FURCOLO. Yes, this may go in the record at this point.

(The document referred to is as follows.)

PALMER & BAKER, INC.,
Mobile, Ala., June 22, 1951.

OFFICER IN CHARGE OF CONSTRUCTION,
Naval Air Basic Training Command,
United States Naval Air Station, Pensacola, Fla.

Subject: Contract NOy–28531, runways, taxiways, and apron, jet field (Barrancas), substitution of corrugated metal pipe for reinforced concrete pipe.
Enclosure: (A) Schedule of storm drainage pipe requirements.

DEAR SIR: Referring to our telephone conversation of even date, we wish to advise you that we are definitely opposed to the substitution of corrugated metal pipe for reinforced concrete pipe on a size-for-size basis. We have no objection to the substitution of corrugated metal pipe coated and with paved invert for reinforced concrete pipe provided the necessary adjustments in size are made to provide substantially equivalent capacity.

We have computed the capacity of the concrete pipe on the present project on the basis of a coefficient of friction of 0.13. We do not feel that a coefficient of less than 0.19 is warranted in computing the capacity of corrugated metal pipes.

We have made a detailed study of the changes in size and invert elevations necessary if corrugated metal pipe is substituted on the basis of substantially equivalent capacity. This detailed list is enclosed herewith.

In accordance with your request, we are endeavoring to secure accurate estimates of the differential in costs which may be anticipated as between concrete pipe and corrugated metal pipe with paved invert. We will advise you further immediately upon receipt of this information.

Yours very truly,

PALMER & BAKER, INC.,
By WAYNE F. PALMER,
President.

POSSIBILITY OF SAVING BY USE OF METAL PIPE AT BARRANCAS

Mr. DONNELLY. Now, Admiral, this letter indicates that the architect-engineer a month before the work began in Barrancas did not object to the use of the larger diameter metal pipe which is less expensive. Would you want to comment on whether the metal pipe could have been used at Barrancas with a potential saving of $200,000?

Admiral JELLEY. I think I would have to bring several points to your attention, Mr. Donnelly. We have three conditions that had to be met. First, the carrying capacity of the pipe, how much water it will carry. Concrete pipe, 36 inches will carry a certain amount of water. Corrugated iron pipe, 36 inches will not carry as much water by the nature of the corrugations and the fact that turbulences are set up within the barrel of the pipe. In fact you have to pave the bottom or what we call the invert of the pipe, to keep water from standing in those corrugations after the rain is over. So it is quite customary to say that for usual conditions a 42-inch corrugated pipe with paved invert is equal to 36-inch concrete pipe. That is, the corrugated pipe has to be larger to carry the same amount of water as concrete pipe.

That is the first consideration. The second consideration is strength. These culverts are installed ordinarily with earth fill on top. There is a question as to whether the concrete pipe is stronger and will carry heavier loads than the corrugated pipe. That is another condition that has to be investigated. The third condition is the nature of the surrounding soil, whether it contains elements that might rust out the corrugated pipe, or elements that might deteriorate the concrete pipe. We think of concrete as permanent and we have stated that concrete buildings are permanent. But if you bury concrete in the ground and water goes through it, as when you use it as a storm drain or sewer, under some conditions concrete deteriorates. I interpret the letter of the Palmer & Baker Co. to mean he has looked into only the size feature. He has not considered whether past experience on concrete pipe and corrugated iron pipe in the Pensacola area would preclude the use of one or the other. Without further investigation in Pensacola, I could not answer your question. They certainly considered the cost differential, but I am sure engineers of the caliber of Palmer & Baker, and of our officer in charge of construction, would not have lightly thrown aside the cost differential just because he liked the looks of concrete better than steel. So I would like to check and report on Monday what reason they had for disregarding the fact that corrugated metal pipe should have been cheaper.

Now, there is another effect, another condition that would also have to be considered. I do not believe I can accept without further inquiry that because corrugated pipe is cheaper than concrete pipe at Cecil Field, it is also cheaper at Barrancas. A large part of the cost, particularly of concrete pipe, is in shipment. If there happened to be a concrete pipe plant quite close to Cecil Field, say in Jacksonville, it would have a very definite effect on the price. Corrugated iron pipe is more uniform in cost because it is usually shipped nested. It comes in sections and they nest them together. They can fill up a flat car or freight car with them very nicely. Concrete pipe is rigid and stiff. It is subject to breakage in shipment, and therefore, the freight costs are quite high either by rail or by truck.

So, if there happened to be a concrete pipe plant in Pensacola, concrete pipe might be cheaper. That would be another point I would have to check on. I think, as an example, I would like to read the Bureau's reasons for withdrawing addendum No. 4, which resulted in an increase in cost on Cecil Field of $135,000 because that point has been left unanswered. I would like to report on Monday morning why we did not go to corrugated iron pipe at Barrancas, if that meets with your approval.

Mr. FURCOLO. You can get that for Monday, either report it orally or have it submitted at this point in the record in addition to maybe some questions on it.

I think in addition to getting the explanation of why it was done that we should have a statement in there of the Navy's official conclusion—by Navy, I mean probably yours—as to whether or not what was done was the proper and efficient and economical thing to do.

Admiral JELLEY. At the same time it might be better to have them side by side in the record, the Cecil Field and the Barrancas problems. It might be easier to read.

Mr. FURCOLO. That would be fine, if you want to have it in that way.

Mr. DAVIS. Off the record.

(Discussion off the record)

Admiral JELLEY. Suppose I submit it in writing Monday.

(The Navy statement on the pipe situation is as follows:)

DEPARTMENT OF THE NAVY,
BUREAU OF YARDS AND DOCKS,
Washington 25, D. C., February 25, 1952.

JOHN J. DONNELLY, Esq.,
Counsel, Subcommittee on Military Construction,
Committee on Appropriations, House of Representatives,
Washington 25, D. C.

DEAR MR. DONNELLY: Supplementing my previous statements regarding the use of concrete versus corrugated metal drain pipe at naval auxiliary air station, Cecil Field, Fla., and Barrancas (Forrest Sherman Field), Fla., I would like to supply for the record, the following additional information.

The Bureau of Yards and Docks considers that concrete and corrugated metal pipe of equal size is not of equal capacity. In order to have equal capacity, corrugated metal pipe must be of larger size than concrete pipe. This has been established by test and is generally accepted by engineers.

In practice, unless unusual local ground conditions would be deleterious to either type of pipe, this bureau permits the optional use of concrete or corrugated metal pipe providing proper sizes are specified. Addendum No. 4 issued by the district office was directed to be canceled because in the Bureau's opinion it permitted the use of pipe of inadequate size.

At Barrancas, the engineer analyzed the difference in cost between concrete and corrugated metal pipe and determined that concrete would be cheaper. Concrete pipe was specified and an alternate price for metal was not requested. The contractors judgment is supported by the fact that State and municipal work in the Pensacola area invariably use concrete pipe even though corrugated metal pipe may be permitted by the specifications. In recent Army work in the area, concrete pipe was cheaper than metal pipe as shown by bid items.

It appears that the corrugated metal pipe is manufactured in Jacksonville within a few miles of Cecil Field and thus corrugated metal pipe would have a freight advantage at Cecil but not at Barrancas. In addition, it has been found that the cost of installation of metal pipe at Cecil Field would be cheaper than at Barrancas due to different ground water conditions.

It is the opinion of the Bureau of Yards and Docks that the use of corrugated metal pipe at Cecil and concrete pipe at Barrancas represent the most economical construction and is in accord with sound engineering practice.

With kindest regards,

Sincerely yours,

J. F. JELLEY,
Rear Admiral, CEC, USN, Chief of Bureau.

TRADE ASSOCIATION REPRESENTATIONS ON TYPE OF PIPE

In the meantime I will read a memorandum which I think is interesting because it will show some of the mechanics of these transactions. I am going to refer to some outside factors which I don't want to imply are improper or undesirable. I consider them to be proper duties, as far as trade association and manufacturing companies are concerned. I think that it is very proper for them to take the stand that they did.

Mr. FURCOLO. Go ahead in your own way.

Admiral JELLEY. This memorandum is dated June 20, so it was written at the time——

Mr. FURCOLO. 1951.

Admiral JELLEY. Yes; so it was written at the time this question was being considered. It is not a recent memo that has been made up for this hearing. We got this from the Bureau files. The first part of the memorandum substantially summarizes what Mr. Donnelly was explaining about the difference in pipe sizes. I won't bother to repeat that.

By telegram of June 3, 1951, the American Concrete Pipe Association requested the Bureau to investigate the issuance of addendum number 4, whereby the Navy specified corrugated pipe on equal-size basis with concrete pipe in sizes above 36 inches. The association asserted that corrugated metal pipe would carry only 40 percent of the quantity which the same size smooth concrete pipe will carry. And that the use of equal sizes is contrary to proven experimental data.

In other words, the issuance of this addendum was a local matter in the district office which prepared the plans and specifications, and the first knowledge the Bureau had of addendum No. 4 was this telegram from the pipe association. We then called a conference in the Bureau. At the conference held in the Bureau on June 18, representatives of ARMCO International Co.—ARMCO is one of the principal manufacturers of corrugated iron culverts—informed the Bureau representatives that the issuance of the addendum by the district public works officer, Sixth Naval District, was subsequent to the furnishing of certain data and information to the district public works officer by representatives of that corporation's Atlanta office. The plans and specifications were being prepared in Atlanta, by the way, by the Roberts Co. This information was to the effect that Roberts Co. who were the architect-engineer contractors on Cecil Field, had designed the work in accordance with certain design criteria used by the Corps of Engineers. The district public works officer was told that the district engineer of Atlanta division, Corps of Engineers, had recently issued a letter to his field offices which called attention to the importance of selecting proper materials to meet site conditions. He was further informed that the ARMCO organization had investigated several drainage and sewerage installations in Florida and had found conditions in which concrete pipe installations had deteriorated at a fast pace, and that the condition of the existing concrete pipe drainage at Cecil Field is very poor, even though it had been repaired recently. The ARMCO representatives claimed that in view of the poor conditions found in these concrete pipe systems after a comparatively short service, the eventual value of n—n is the friction

factor that would be used in the pipe formulas to determine the amount of water a pipe could carry for a very rough surface—the value of n would be much higher than for a very smooth surface.

The eventual value of n, after the pipe had deteriorated, would be the same for the concrete pipe and for paved invert corrugated metal pipe.

Their argument, in other words, was that even though you start off with a smooth concrete pipe, after some years, the concrete deteriorates and becomes rough and the friction would be such that it would be equal to the friction inherent in the corrugated metal pipe. They believed that corrugated metal pipe because of its flexibility, tight-banded joints and long length, would retain its n value throughout the length of its life.

NAVY CONSIDERATION OF THESE REPRESENTATIONS

These and all other factors have been given full consideration and the following conclusions are reached: The drainage system in the architect-engineer contractor's official design—prior to the issuance of the addendum—is in accordance with good engineering practice. It should be noted that the design is based on a 10-year rainfall frequency. The usual Bureau practice for the average station is designed for a rainfall frequency of at least 2 years, except where flooding might cause vital damage in which case 10 years is used.

Perhaps I had better explain that, too. In designing storm drains, you estimate how much water the drain has to carry. That is a function of the area of ground served and the amount of rainfall that might be expected in any storm per hour or 24 hours, or so on. You look in the rainfall records and find out the heaviest rainfall within certain periods. If you take a 2-year average, you get a certain rainfall If you take a 10-year average, the heaviest rainfall that occurs over a 10-year period will be larger than that which will occur in a 2-year period. If you take a 100-year period it will still be much larger, so that often we take 2 years which is not too conservative. On installations such as air stations where flooding would put the runways out of commission, we get a little more conservative and take 10 years. If we were building a vital dam or something like that we might take 50 years. In this case we agreed that 10 years was the right period to take.

In performance of the engineering work, the Roberts Co. apparently took the above conditions into consideration. Subsequently, however, the design basis was changed as indicated by the quoted addendum. It is not believed that this change was based on sound technical information. If the Bureau agrees to accept the bids agreed under the addendum and the specifications it will be doing the following: it will be accepting a n value—I remind you that n was the coefficient of roughness—the n value for corrugated iron pipe which varies widely from commonly accepted long established values in the engineering practice.

Next, the Bureau would be placing itself in a position of having to justify its action in accepting this changed value of n.

Third, the Bureau will be going on record as supporting the claims of the corrugated metal pipe manufacturers who are presently justifying their claim by exhibiting the alleged shortcomings of the materials

manufactured by competitors. Their strongest argument lies in the showing of pictures of present installations of concrete pipe made under wartime conditions. I might explain that during the war the amount of cement and the amount of reinforcing metal had to be reduced by many concrete pipe manufacturers.

NAVY DECISION ON PIPE

After full consideration of all facets of this problem, the following recommendation is considered to be the only reasonable one to make under the circumstances, that the project manager take such steps as are necessary to insure that the installation of drainage system is made in accordance with requirements of the original design. Modification of the original design required by item 106, section 1, addendum No. 4, is not to apply.

That was approved after review and discussion and the addendum No. 4, was in effect canceled. You will recall, however, that they took larger corrugated pipe instead of concrete pipe because of the difference in cost. Now, I would expect some reasoning along those lines to have also been followed at Pensacola. Perhaps the reasons were not the same but they made a study of this at the time.

Mr. FURCOLO. Since that is an extremely long letter I wonder if it is possible for you to briefly summarize it in a few of your own words. Is it possible to do that and state what it comes to?

Admiral JELLEY. In my opinion it can be summarized this way: In considering all angles of this question, it was felt that corrugated pipe must be of larger dimension than concrete pipe to carry the same amount of water, and that the issuance of the addendum No. 4 had not been justified.

Mr. FURCOLO. By whom was that felt?

Admiral JELLEY. Addendum No. 4 was issued by the district. The reversal of the district's decision was effected by the Bureau of Yards and Docks.

Mr. FURCOLO. Go ahead.

Mr. KATZ. It is a question of the Bureau's engineering judgment as opposed to the local man's engineering judgment. We thought ours was better in view of all the facts.

Mr. FURCOLO. Off the record.

(Discussion off the record.)

Mr. DONNELLY. The engineers on the committee staff, as they went through the various installations around the country, sometimes made a notation that a different type of material could have been used just as well and with economy. However, the staff engineers did not want to take a position contrary to the engineering judgment of Yards and Docks or the Corps of Engineers. The reason we have selected this Cecil Field and Barrancas pipe matter was because the architect-engineer at Barrancas had said that metal pipe could possibly serve there, and eventually Cecil Field used the metal pipe. It seemed to be a good illustration of the choice of a less costly but equally durable material.

Admiral JELLEY. It is, provided there wasn't some supplementary reason that wasn't in existence at Cecil Field, but was at Barrancas. I am trying to determine that so I can give you full information Monday morning.

Mr. DONNELLY. So much for that.

STEEL MESH IN RUNWAYS, TAXIWAYS, AND PARKING APRONS AT CECIL FIELD AND BARRANCAS

Now, we have a similar situation with respect to steel mesh in the runway on these two jobs, Cecil Field as against Barrancas. To start the discussion on steel mesh, we have first a memorandum of Captain Eckberg dated August 9, 1951, in which he points out the possibility of deleting the steel mesh, steel being a critical material, in all parts of runways so long as it was left in the first 500 feet. By way of prefatory explanation as I read these documents, Captain Eckberg and the Bureau adopted that view that you did not need the mesh all over the runway, just as long as you had it the first 500 feet. As I see these documents also, the Bureau and Captain Eckberg did all they could to persuade the public works officer at Barrancas to follow that policy and the public works officer there may have had reservations in the matter. I do not know; it would be a question of interpretation.

Admiral JELLEY. I think it might be well to explain why Captain Eckberg is being mentioned so frequently. It was because the committee investigators happened to be in this particular naval district.

Mr. DONNELLY. The committee investigators were in a number of naval districts but we have dealt more with his, Captain Eckberg's district that any of the others.

Admiral JELLEY. I wouldn't want him to feel that he was being singled out in any way.

Mr. DONNELLY. That is not our intention.

Admiral JELLEY. It is accidental but they concentrated on that particular district. The same thing might happen in any other district.

Mr. FURCOLO. This memorandum may be entered in the record at this point.

(The document referred to is as follows:)

NAVY DEPARTMENT,
DISTRICT PUBLIC WORKS OFFICE AND
OFFICER IN CHARGE OF CONSTRUCTION,
SIXTH NAVAL DISTRICT,
Naval Base, S. C., August 9, 1951.

From: District Public Works Officer, Sixth Naval District
To: Officer in Charge of Construction, NOy Contracts, Naval Air Basic Training Command, U. S. Naval Air Station, Pensacola, Fla.
Resident Officer in Charge of Construction, U. S. Naval Air Station, Jacksonville, Fla.
Resident Officer in Charge of Construction, U. S. Naval Station, Key West, Fla.
Resident Officer in Charge of Construction, U. S. Marine Corps Air Station, Cherry Point, N. C.
Resident Officer in Charge of Construction, U. S. Naval Air Station, Memphis, Tenn.
Subject: Airfield runway, taxiway and parking apron concrete pavements; decrease in use of steel mesh reinforcement.

1. Previous instructions from the Bureau of Yards and Docks have required the use of steel mesh reinforcement for all of subject concrete pavements in design of runways, parking aprons, warm-up aprons and taxiways.

2. Recent advice from Mr. Palmer of BuDocks indicates that the Bureau will consider specific requests for omission of the above steel mesh reinforcement except for the first 500 feet of the concrete pavements at the ends of runways and the "warm-up" portions of the parking aprons. The omission of the above reinforce-

ment mesh will result in the savings of considerable critical material and approximately 60 cents per square yard because of the cost of the typical 10-inch concrete parking apron.

3. Comments and recommendations of addressees are requested and should be forwarded not later than August 16 for those contracts which addressees are either OINCC or ROINCC as to whether requests should be made of the Bureau to permit the omission of reinforcing mesh, with specific recommendations concerning which areas, based upon the above criteria, the omission is recommended. The recommendations should be made to the DPWO, 6ND with information copy to BuDocks (C–316).

W. T. ECKBERG.

Mr. DONNELLY. We note at the end of this memorandum that Captain Eckberg is soliciting the comments and recommendations from various officers in charge of construction on the matter of deletion of the steel mesh.

Now, we have next the response of the resident officer in charge of construction at Jacksonville, who was at that time supervising the construction at Cecil Field.

Mr. FURCOLO. This may be entered in the record at this point.

(The document referred to is as follows:)

SEPTEMBER 20, 1951.

From: Resident officer in charge of construction, Naval Air Station, Jacksonville, Fla.

To: District officer in charge of construction, Sixth Naval District.

Subject: Contract NOy–27261: Runways, taxiways, and apron, Naval Auxiliary Air Station, Cecil Field; proposed changes to contract requirements.

Reference: (*a*) Bureau of Yards and Docks speedletter C–220F/SDG:1rd NOy–27266 and 27261, undated, to officer in charge of construction;

(*b*) Resident officer in charge of construction letter PW/NOy–27261 (3) of September 19, 1951 to district officer in charge of construction.

1. By reference (*a*) Bureau of Yards and Docks concurred in the recommendation to omit reinforcing mesh from the concrete strip at the end of the runways except the first 500 feet and from the taxiways except 500 feet back from the ends of the runways. Reference (*a*) also advised that Bureau of Yards and Docks considered the reinforcing mesh should be omitted from the parking and warm-up paving.

2. By reference (*b*), item 9, the resident officer in charge of construction requested that the contractor be directed to proceed with the change to omit the reinforcing mesh in all concrete pavement except the parking area and the 500-foot end of the runways and the taxiways. In view of comments by the Bureau, it is requested that item 9, paragraph 2, be revised to read as follows:

"All reinforcing mesh in concrete pavement shall be omitted except in the first 500 feet at the end of each runway and 500 feet on taxiways back from the end of runways. This will result in a reduction of the quantity stated in the bid schedule by approximately 265,220 square yards."

Mr. DONNELLY. The theme of this document is that at Cecil Field the suggestion is being adopted, as I understand it, and as we see from the next document, at a saving of $150,000 at Cecil Field by virtue of these deletions of steel mesh.

(The Cecil Field change order on steel mesh is as follows:)

CONTRACT NOy–27261—RUNWAYS, TAXIWAYS, AND APRONS, CECIL FIELD, FLA.

CHANGE A (PENDING)[1]

Item 9.—Elimination of reinforcing mesh in certain areas of reinforced concrete pavement. These areas have been determined to be the first 500 feet at the ends of runways and 500 feet on taxiways back from the end and edge of the runways. This will eliminate approximately 265,220 square yards of reinforcing mesh. Estimated change in contract price: Deduct $150,000.

[1] STAFF NOTE.—This data was supplied by the Sixth Naval District.

So, we see the suggestion adopted at Cecil Field. Then we start with a series of documents which relate to the reaction of the Barrancas public-works officer to the deletion of the mesh, and in the ultimate we will see that he did not think well of the suggestion.

I would like to enter these documents, Mr. Chairman.

Mr. FURCOLO. These may be entered in the record at this point.

(Documents referred to are as follows:)

AUGUST 17, 1951.

From: Officer in charge of construction.
To: District public-works officer, Sixth Naval District.
Subject: Airfield runway, taxiway, and parking-apron concrete pavements; decrease in use of steel mesh reinforcement.
Reference: (*a*) District public-works officer, Sixth Naval District, multi-addressed letter of August 9, 1951.

1. In view of Board report on changes dated August 13, 1951, contract NOy–28531, to reduce concrete pavements at the ends of runways and taxiways from 1,000 feet to 500 feet, the officer in charge of construction does not consider the comments and recommendations requested by reference (*a*) applies to Fort Barrancas Field.

T. W. BECK
(By direction).

AUGUST 22, 1951.

OFFICER IN CHARGE OF CONSTRUCTION,
Naval Air Basic Training Command,
Naval Air Station, Pensacola, Fla.:

Your letter of August 17, 1951, NOy–28531, on decrease in use of steel-mesh reinforcement in concrete pavements, refers to changes in amount of concrete pavements at ends of runways and taxiways. As requested, my letter of August 9, 1951, comment and recommendations also desired concerning possible decrease in use of steel-mesh reinforcement for concrete parking-apron pavements.

W. T. ECKBERG,
District Officer in Charge of Construction, Sixth Naval District.

UNITED STATES NAVAL BASE, *Charleston, S. C.*

AUGUST 24, 1951.

DISTRICT OFFICER IN CHARGE OF CONSTRUCTION,
Sixth Naval District,
United States Naval Base, Charleston, S. C.:

Your letter code D–10, August 22, 1951, requesting comment and recommendations desired concerning possible decrease in use of steel-mesh reinforcement for concrete parking-apron pavements. The officer in charge of construction does not recommend decrease in use of steel-mesh reinforcement for concrete parking aprons at Fort Barrancas Field unless shortage of steel precludes completion of aprons within time limit of contract.

GEORGE S. ROBINSON,
Commander, Civil Engineer Corps, United States Navy,
Officer in Charge of Construction, Naval Air Station, Pensacola, Fla.

The next document we have is a letter to Mr. S. B. Glenn—he is one of the gentlemen present at this hearing—from Commander H. F. Winn, at Pensacola, dated 13 September 1951, on this same subject.

Mr. FURCOLO. The letter may be inserted in the record at this point.

(The letter referred to is as follows:)

SEPTEMBER 13, 1951.

Mr. S. B. GLENN,
Bureau of Yards and Docks, Washington, D. C.

DEAR MR. GLENN: With reference to our telephone conversation of September 11, I have gone into details with my own staff and with Palmer & Baker, our A. & E. contractor, regarding use of reinforcing steel wire mesh in concrete sections of the Barrancas Airfield.

We submitted a complete steel requirement breakdown to the Bureau by our dispatch 0714307, September 1951, which went to code B–630. In this dispatch we indicated that 416 tons of pavement mesh steel would be required and that shipment was scheduled for December 1951. Also in the same dispatch we noted requirement of approximately 515 tons in mesh steel required for concrete storm-drainage pipe. Since the delivery schedule for drainage-pipe steel is still not determined, it is my opinion that any delay in construction work will be centered around the availability of the concrete pipe. The concrete pipe will be required first. Therefore, there is apparently no problem in receipt of steel mesh for paved areas. We here are, therefore, of the opinion that there should be no exclusion of reinforced mesh in the concrete sections, including parking apron and end sections, since there will be no delay due to nonreceipt of wire mesh.

Should, by chance, our contractor's delivery date for reinforced mesh become fouled up and by so doing will result in a delay, I will be happy to go along with you people in the Bureau and request a waiver for the steel required in parking aprons only. However, neither my staff here nor the A. & E. contractor want to eliminate any of the steel mesh in the 500 feet end sections of runways and taxiways.

If I can be of any further assistance to you in any phase of construction here at Pensacola, do not hesitate to ask me.

Sincerely yours,

H. F. WINN,
Commander, Civil Engineer Corps, United States Navy.

Admiral JELLEY. I might explain, Commander Robinson, who signed the speedletter of August 24, was relieved shortly thereafter by Commander Winn; so that is a result of the continuity in command.

Mr. DONNELLY. The burden of this letter is that, as of September 13, the officer in charge of construction at Pensacola still had not decided that it was advisable to delete the steel mesh in the parking aprons——

Admiral JELLEY. Unless he could not get delivery; unless the job would be held up by slow deliveries of steel.

Mr. FURCOLO. In view of the fact that that is apparently Mr. Glenn's letter——

Mr. GLENN. It is to me; yes. He sent it in as a personal letter, and I answered it by an official letter. It was answered by an official letter rather than by me directly.

Mr. DONNELLY. The next document we have is the official decision, as I read it, of the Chief of the Bureau of Yards and Docks, acting through Thomas J. Dumont, in the matter of deleting the mesh.

(This document is as follows:)

OFFICER-IN-CHARGE OF CONSTRUCTION,
BUREAU OF YARDS AND DOCKS CONTRACTS,
UNITED STATES NAVAL AIR STATION, BUILDING 45,
Pensacola, Fla., September 24, 1951.

Subject: NAS, Pensacola, Fla.; Contract NOy–28531, runway, taxiways, etc.; request for omission of wire mesh in certain areas.
Reference: (*a*) OICC letter to Bureau of September 13, 1951.

By reference (*a*), the OICC stated that it appeared that there would be no delay in the receipt of reinforcing mesh required for the concrete sections including parking aprons and end sections and therefore considered that the mesh should

not be excluded from any areas. The OICC stated that later if it is evident there will be a delay in obtaining the mesh a request will be made for a waiver to omit the mesh required in the parking aprons only. The Bureau considers that the wire mesh should be used only in the ends of the runways and in a section of the taxiway approximately 500 feet from the end of the runway. Therefore, it is requested that the OICC appoint a board on changes to determine the firm estimated cost for a deductive change order to omit all wire mesh and all dowels across transverse contraction joints in all of the parking areas and the taxiways except for the 500-foot end. The board on changes report should be forwarded to the DPWO to prepare a deductive change order.

THOMAS J. DUMONT,
By direction of Chief, Bureau of Yards and Docks,
Department of the Navy, Washington 25, D. C.

The next document is Commander Winn's letter of October 2, 1951, to the contractor advising him of the constitution of a board on contract changes and notifying him of a desire to negotiate an equitable adjustment in contract price for the omission of the mesh.

The final document we have in this chain is a memorandum for the file that Pensacola, October 9, 1951, shows that the deletion of the mesh as desired, apparently by the Bureau in Washington was not made because of the delay in requiring the deletion. (The committee staff has made a computation at the bottom of the document that $50,300 might have been saved by earlier adoption of the change by Pensacola.)

Mr. FURCOLO. These documents may be entered in the record at this point together with the notation that the emphasis is supplied by the committee staff as indicated in the second document, together with the notation that the staff note is not a part of the letter but had been added by the committee.

(The documents referred to are as follows:)

OCTOBER 2, 1951.

Subject: Contract NOy-28531 (specification 30185) runways, taxiways, and apron, NAS, Pensacola, Fla., proposed contract change.

SMITH ENGINEERING & CONSTRUCTION CO.,
P. O. Drawer 1831, Pensacola, Fla.

GENTLEMEN: The Bureau of Yards and Docks has directed appointment of a board on contract changes to negotiate an equitable adjustment in contract price for the omission of all wire mesh reinforcement and all dowels across transverse contraction joints in all areas of concrete pavement except for the 500-foot lengths of concrete pavement at runway and taxiway ends.

Government members of the board are Lt. Comdr. T. W. Beck (CEC) USN, senior member; Mr. William E. Willard, member; Mr. W. L. Lynn, member; and Mr. R. J. Brennan, member and recorder. It is requested that you advise the officer in charge of construction immediately of your nomination of a board member to represent your company in the negotiations. In order that your material requirements may be defined under the proposed construction changes, it is essential that the board meet at the earliest practicable date. It is suggested that the board convene in the office of the officer in charge of construction, Building 45, Naval Air Station, Pensacola, Fla., at 9 a. m. on Monday, October 8, 1951. Please advise promptly if the suggested time for the board meeting is acceptable to you. If an alternate date should be necessary it should be established as soon as possible after October 8.

Yours very truly,

H. F. WINN,
Commander (CEC) USN,
Officer in Charge of Construction.

HEADQUARTERS NAVAL AIR BASIC TRAINING COMMAND,
UNITED STATES NAVAL AIR STATION,
Pensacola, Fla., October 9, 1951.

MEMORANDUM TO FILE

Notes on active construction contracts, Naval Air Basic Training Command Pensacola, Fla.

Contract NOy–28531, runways, taxiways and apron, NAS, Pensacola
Original contract price, $6,425,608.

* * * * * * *

General.—At the direction of the Bureau of Yards and Docks a board on changes has been established for the intended purpose of negotiating a deductive change in contract price for the omission of wire mesh and contraction joint dowels in all areas of concrete pavement except the 500-foot lengths at runway and taxiway ends. Preliminary discussions with the contractor and his supplier, Virginia Steel Co., indicate that the contractor's mesh requirements are presently being processed through the mill. The supplier stated the contractor's order is not subject to cancellation and that delivery of the mesh will be made as a firm commitment. In this circumstance the Government would be obligated to the extent of the delivered price of the mesh and the only saving would be the minor cost of installation, estimated as the labor of two workmen daily through the installation period. *There are about 230 tons of reinforcing mesh and about 52 tons of dowels and accessories originally proposed for omission. A fair price for this* material would be about *$150 per ton.* The circumstances are being reported to the Bureau of Yards and Docks for decision on any further action to be taken. [Emphasis supplied by committee staff.]

(STAFF NOTE—A saving of 282 tons at $150 or $42,300; to this is added $8,000 for labor, totaling $50,300, which might have been saved.)

Mr. FURCOLO. I presume you are going to do this anyway, but if you can briefly summarize the documents with reference to this point and then perhaps get an answer from the admiral——

Mr. DONNELLY. I would be very glad to, Mr. Chairman.

STEEL MESH DELETION AT CECIL FIELD; CORRESPONDING DEVELOPMENTS AT BARRANCAS FIELD

To sumimarize these documents, it appears, I believe, that August 9, 1951, Captain Eckberg as the district public works officer for the Sixth Naval District at Charleston determined that money could be saved by omitting the steel mesh from runways with the exception of the first 500 feet and from those portions of the parking apron where there is a warm-up of the planes. He pointed out that considerable critical material is involved and that approximately 60 cents per square yard is the standard of saving. At Cecil Field the suggestion was quickly adopted and a deduction of $150,000 was made by virtue of following Captain Eckberg's suggestion. However at Barrancas Field, the resident officer in charge of construction did not adopt the suggestion until officially ordered to do so by the Bureau in Washington and by the time that Pensacola had carried out the orders of the Bureau, it was too late and the saving of money could not be accomplished. Is that a fair statement, Admiral?

Admiral JELLEY. I noticed that you finished up the sequence of exhibits with an assumption that Pensacola had disregarded the Bureau's instructions and went ahead and installed the wire mesh anyway. Mr. Glenn has been in close touch with the Pensacola job and I believe that letter was dated August 9. This is the middle of

February and I would like to ask Mr. Glenn to state whether the concrete was poured or just what actually happened?

Mr. FURCOLO. Before that point, I wonder whether you would be able to state for the record whether you agree substantially on what these documents do.

Admiral JELLEY. I was going to do that after commenting on both fields.

Mr. FURCOLO. Go ahead in your own way.

Mr. GLENN. Right at this point, I do not know the exact amount of concrete that had been poured, but we have no intention to waste that steel. Although we omitted it, we are proposing to use it in other runways that will be constructed later at the same field.

Admiral JELLEY. Was steel mesh actually installed in the concrete parking apron?

Mr. GLENN. It would be installed in the end of the runway.

Admiral JELLEY. I did not ask that; Mr. Donnelly said that his staff had assumed that the steel was going to be installed in the parking aprons contrary to Bureau's directive. Was it installed in those parking areas?

Mr. GLENN. No, sir. We did not construct any parking aprons.

Mr. FURCOLO. Saving it until future use?

Mr. GLENN. Postponed (construction of parking apron) until later.

Admiral JELLEY. We have a letter requesting appointment of the board of change to omit wire mesh reinforcement and dowels in all areas of concrete pavement except in 500-foot paving at the end of the runway. Why didn't that board act then?

Mr. GLENN. It did. It did, and it was just a small amount of saving because they already had the steel delivered. The installation cost, maybe $1,500 or $2,000 for the labor cost is all we saved on it.

Mr. KATZ. They delivered to us 280 tons of steel which we are not using at present but which we have available for use elsewhere. No part of it has been installed.

Mr. GLENN. That is right.

Admiral JELLEY. I would like to check that personally with Pensacola on the phone this afternoon and find out. Whether steel mesh was or was not installed in the concrete paving. The information Mr. Glenn has that the steel was not installed but it was received and stockpiled for use in the next section of the runway or the next runway to be built.

Mr. GLENN. You see, here in this letter, we told them to omit construction of all permanent parking area presently included in the contract. That is what I was trying to get over.

Admiral JELLEY. We are not going to build a parking area at this time.

Mr. GLENN. No, sir. We may build it later but not in this contract right now.

Admiral JELLEY. That letter is dated January 17, 1952.

Mr. FURCOLO. That letter to which you refer is not one that counsel read.

Mr. GLENN. No. I am sure he doesn't have this letter because this letter was sent as a result of the change from constructing two east and west parallel runways to construction of one runway east and west, and one runway north and south.

Mr. FURCOLO. Let me interrupt you. Counsel had introduced in the record certain letters that are fairly long. He has summarized briefly what those letters say. That does not necessarily mean that the facts in those letters are accurate, but he says that is what is in the letters. What we would like to get first is whether after reading of the letter you agree with counsel's summary of what those letters say. Then after we have established that for the record you may want to go on and show there is something in addition to be shown by another letter or something.

In other words, we would like you to say first of all that you agree or disagree with his summary of what the letters say.

Admiral JELLEY. I agree up until his last assumption. We certainly can determine whether we agree with that by examining later correspondence.

Suppose that we submit a written statement, Monday, providing any further correspondence that his staff did not have access to previously.

Mr. DONNELLY. That is fine.

Mr. FURCOLO. That may be done and in addition to that, we may have some question to ask you Monday on them. But at least we will then have in one place in the record the places where we agree on both sides of the table and whatever explanation there may be where there is disagreement.

Mr. DONNELLY. For my own information, do I understand correctly from this memorandum of October 9, which is the last one we have, that this 230 tons of reinforcing mesh was actually ordered for runways, taxiways, and aprons at Barrancas?

Admiral JELLEY. Yes.

Mr. DONNELLY. And if it was subsequently delivered and the Navy stockpiling it, it was still ordered by virtue of this particular contract?

Admiral JELLEY. Yes; except the order must have been placed long before the Bureau directed that the mesh be omitted. It must have required at least 3 or 4 months for delivery.

Mr. DONNELLY. That is an assumption, too, which may be important. I don't want to assume anything that is not accurate and I am sure that you don't.

Admiral JELLEY. I will check.

Mr. DONNELLY. The big question is this, if in August Barrancas had followed Captain Eckberg's suggestion and acted promptly in deleting the mesh, had the contractor placed his order for the mesh at that time. If not, could the Navy not have deleted the mesh at that time?

Admiral JELLEY. Except, I will remind you that Captain Eckberg asked for comments from the local people whether or not the mesh should be omitted. The Bureau did not direct the omission of wire mesh. The Bureau said they would consider requests to omit mesh. We can find out just when the order was placed, whether it was before that August date or not.

Mr. KATZ. It seems reasonable to assume that when Captain Eckberg invited comments from six or seven stations, he thought there might be different considerations at the different stations; otherwise he would have issued one order for all stations.

Admiral JELLEY. I think we will find that the order was placed immediately after the award of the contract. The contractor—and Smith is a good-sized experienced contractor—would know that that would take the longest delivery and he would get his order in right away.

(The Navy explanation of the steel-mesh matter was subsequently supplied, and is as follows:)

DEPARTMENT OF THE NAVY.
BUREAU OF YARDS AND DOCKS,
Washington, D. C., February 25, 1952.

JOHN J. DONNELLY, Esq.,
Counsel, Subcommittee on Military Construction,
Committee on Appropriations,
House of Representatives, Washington, D. C.

DEAR MR. DONNELLY: Supplementing my previous statements regarding the omission of reinforcing steel and dowels in concrete runways, taxiways, and parking areas at the Naval Auxiliary Air Station, Cecil Field, Fla., and Barrancas (Forrest Sherman Field), Fla., I would like to supply for the record, the following additional information.

Steel reinforcing and dowels were omitted from concrete paving at Cecil Field with Bureau of Yards and Docks approval. This is not a normal and desirable practice and was resorted to as a calculated risk in order to avoid delays in completion that would interfere with operations at a time when steel was in extremely short supply. When steel is more readily available its use will be required.

At Barrancas, the steel reinforcing and dowels had been ordered prior to the decision of the Bureau of Yards and Docks to risk omission of steel. When contractor was finally directed to omit the steel from the concrete parking areas, it was found that excessive cancellation charges were involved. As a result the contractor was directed to accept delivery and turn the steel over to the Navy for other use.

This steel was not used and is presently on hand at Barrancas. Part of it will be used in the concrete floors of warehouses and shops for which appropriations are available. The remainder will be used in the cross runway at Barrancas which has been authorized but not appropriated for.

With kindest regards,
Sincerely yours,

J. F. JELLEY,
Rear Admiral, CEC, USN, Chief of Bureau.

ADVISABILITY OF PLACING STEEL MESH IN RUNWAYS, TAXIWAYS, AND PARKING AREAS

I would like to discuss the general question of the omission of this steel mesh in our runways, taxiways, and parking areas.

At the time the Bureau issued its original letter saying that it would entertain requests for the omission of this steel, many of these urgent runway jobs were being held up because of lack of delivery of steel mesh and particularly the steel dowels which connect the concrete slabs. The people in the design branch of the Bureau took a calculated risk that it was safe to omit that steel mesh, although I think you know even though you are not engineers, that every concrete street or road you have seen has had steel in it.

In my personal opinion, not as Chief of the Bureau, but as my opinion personally, as an engineer I would never omit steel mesh under any circumstances. There is a chance of omitting it in an area such as Cecil Field and Pensacola because of the lack of frost in the ground. One of the chief reasons you have the steel mesh in concrete is to hold the concrete together during expasion and contraction caused by temperature changes. Another reason is that you get some strengthening of the concrete slab itself and if you have a little settle-

ment under it, that steel might help you bridge over it. Also, on the edge of the slab, and at the corners of the slab, if you get your plane wheel running near the edge or near the corner, you will get a load that tends to break the slab off. Usually, the slab is thickened there to give more strength, the steel also might add to that strength.

If you have observed an old concrete road, and I would not expect you to be looking for things like this, but you will notice that there is often a diagonal crack at the corner of the slab, maybe 2 feet, triangle 2 feet each way, and you can see where the crack has been filled in with asphalt joint filler.

The Bureau took a risk at that time in omitting the steel mesh. A risk that in my opinion I would not have taken. I would have accepted the delay in completion of the work. I imagine the people at Pensacola felt very much like me; they did not like to see that concrete going down without the steel mesh.

(Discussion off the record.)

Admiral JELLEY. The saving of $150,000 at Cecil Field is entirely theoretical in my opinion. They may have to go back inside 5 years and spend $1,000,000 repairing that runway. They did not dare take the risk on the last 500 feet of the runway because of the heating blast of the jet planes which would accentuate the expansion of the concrete. They assumed that in the remainder of the concrete and parking area and so forth, that the only expansion and contraction would be caused by temperature changes. And it is a fact that in Cecil Field and in Barrancas, the temperature range is not much. The important thing is the difference between high and low temperature, not how hot it gets in Cecil Field or how cold it gets, but it is the difference between highest and lowest temperature. It is at a minimum in that Florida area.

If you got up to northern Minnesota where it might get to 40 below in winter and 100° in summer, you would have a maximum expansion and contraction. I suppose Wisconsin has areas the same way.

I have been riding over too many old concrete roads that are broken up and I have seen too many concrete runways that have broken up to have approved the omission of steel mesh. It was a risk we took and whether we are right or not only time will tell. If it had been referred to me I would not have approved it.

Mr. FURCOLO. Apparently without objection we are going to adjourn. That is one thing we will all agree on.

Mr. RILEY. The committee will come to order.

MONDAY, FEBRUARY 25, 1952.

I ask Mr. Donnelly to proceed with the hearing.

Mr. DONNELLY. On Thursday last the committee staff concluded its presentation of matters relating to the Navy public-works program. I do not know whether the committee members had exhausted the questions they desired to ask on matters adduced here last week.

Mr. RILEY. Mr. Furcolo, did you have some questions?

LIQUIDATED DAMAGES COLLECTED BY THE NAVY ON CONSTRUCTION CONTRACTS

Mr. FURCOLO. I do not know if you can submit it now, but possibly you might be able to submit it for the record. There has been so much talk about the liquidated damages, and while I realize that

probably the main purpose of such a clause is for the effect it may have upon the contractor to get through rather than the idea of collecting, I think it might be helpful if without too much trouble you could insert in the record an explanation of roughly the amount of money that has been taken in in liquidation damages by the Government for, say, the past year or for the past 2 or 3 years.

Would it be very difficult to show that? It would be helpful to us on the floor.

Mr. KATZ. It would be difficult to give an exact figure, but could I say that it is less than $5,000 a year? Would that serve your purpose?

Mr. FURCOLO. That will do it. Unless the committee itself wants more than that. If you say it is less than $10,000, that probably does it.

Mr. PATTERSON. I would like to say less than $10,000. It isn't any substantial amount, but it is a spur.

Mr. RILEY. Suppose you insert a figure and correct it.

Mr. PATTERSON. It would be quite difficult to check it.

Mr. KATZ. It would mean looking at every contract.

Mr. FURCOLO. I wouldn't want you to go to any great inconvenience. I would not have the faintest idea whether it would be $100 or $1,000,000.

Mr. KATZ. Less than $10,000 a year for the past 5 or 6 years.

Mr. PATTERSON. No substantial amount but a very excellent incentive.

CHAIN OF COMMAND RESPONSIBILITY FOR NAVY CONTRACTS

Mr. FURCOLO. The other question has to do with the responsibility in all these contracts. What I am getting at is this: I would like to establish the chain of responsibility. That may be somewhat similar to chain of command. I don't want you to say that you assume the responsibility or some high-ranking officer does. Ultimately, I assume the responsibility rests with you, Admiral, and perhaps then somebody superior to you. What I am talking about is the situation similar to this: We know this chain of command as far as a ship is concerned. The captain who is right on the ship is responsible for what the junior officers or someone else does, even though, speaking fairly, he probably does not have anything at all to do with it.

I want to get down to some man like that who is in the field or perhaps here in Washington or wherever he may be, if there is such a person. From our talks so far I have gathered that possibly in some instances it may be a man in the same situation that Captain Eckberg was in.

Will you briefly trace the chain of responsibility in the average contract, beginning where it starts and tracing it to where it ends. And then, more or less as man to man, state where the responsibility would be comparable with reference to the captain of a ship at sea.

Do you get what I am driving at?

Admiral JELLEY. I am going to ask Mr. Katz to cover the legal chain of command.

Mr. FURCOLO. I do not know whether you want that in the record at this point, Mr. Chairman, or do you want to have it in some other place in the record?

Mr. RILEY. Let it go in here.

Admiral JELLEY. I just wanted to say one thing——

Mr. FURCOLO. Might I just interrupt you, Admiral, and insert this before that. I do not think any of us are looking now for anything in the past as far as blaming anyone or anything like that. We merely want to be helpful to you as well as to the committee. It may help in suggestions and recommendations that we can make if we know basically where the responsibility should lie.

Admiral JELLEY. I am going to ask Mr. Katz to answer that question, but I wanted to bring out that we do not treat this in the same way that command is treated. That is the situation where the captain of the ship has command or responsibility for everything that happens on the ship. In our system, each and every contract has a designated officer in charge of the contract. We do not put an officer in charge of all contracts. We actually designate an officer on each individual contract, who is in charge of that contract. That is the difference between what we call normal command. Mr. Katz can trace the line for us.

Mr. KATZ. I will start with the Bureau rather than the Navy. The Chief of the Bureau has all the contracting authority that there is in the Bureau. Nobody else has any, unless the chief delegates it to him. In that sense, he is ultimately the one man who is responsible for everything. The organization that we have set up is along the lines of the established naval districts.

There are, I think, 14 naval districts and 2 river commands (that is the Potomac River Naval Command and the Severn River Naval Command). Each of them is headed by what we call a district public works officer. Some are tiny like the Severn River Naval Command, which has nothing but the Naval Academy. Some are very big like the Eleventh Naval District out on the west coast, or the Third Naval District, which has New York and so forth. But each of them is headed by one man, a district public-works officer, who is in every case a senior officer of the Civil Engineer Corps.

The Chief has delegated to each one of these men almost complete authority to handle contracts within certain established rules that the Congress has set up, the military services have set up, and that we have set up.

As regards construction contracts, the chief has given the district public works officer virtually unrestricted authority to handle competitive bid contracts. We have given them rules and guidelines for the right way to take competitive bids and the right way to make awards. But so long as they stay within those rules, we are out of the picture.

As soon as they want an exception to those rules, such as if they should propose to make an award to other than the mathematical low bidder, they come right back in to the chief or one of his authorized subordinates in the Bureau.

Now, design contracts (as opposed to construction contracts) are by nature negotiated rather than bid contracts. The Chief has given each district public works officer authority up to $300,000 on design contracts, provided they stay within a scale of fees that we have set up. They cannot go ahead and pay twice as much as we think they ought to pay.

In each district there are subordinate activities. It is impossible to tell you how many because each district varies. The Chief has

given certain selected officers at these subordinate activities authority up to $10,000. Finally, every single officer who is the public works officer of a station, large or small, has authority up to $2,000. That is the framework.

The district is ruled by the district public works officer the same as the Bureau rules the districts. The Bureau lays down the rules and tells them what is right and what is wrong. We are the final court of appeal.

Mr. FURCOLO. As a practical matter let us take Memphis as an example. I may quote the wrong phase along here but I think you will know what I am driving at.

Let us assume that for reasons of your own, you people on your level come to the conclusion that Memphis has gone sour someplace along the line. If you want to get hold of someone who you think is responsible in that situation, to whom would you talk? I assume you would get hold of your district man there who is in over-all charge, but I do not know.

What I am interested in is, when you get him, is he responsible enough so in effect you say to him, "Now, for heaven's sake, what has gone wrong with Memphis?" Or is it rather a situation where you say to him, "For heaven's sake, will you get on the neck of so and so, along the line?"

Do you get what I am driving at? While the responsibility may be on that man to whom you are going to talk, as a matter of protocol, or going down the chain, do you regard whatever has gone wrong there as being really the responsibility of that district chief, or is it a situation where you regard it as being ultimately the responsibility of someone below him, although technically and to go by tradition or protocol you may have to deal with him?

Mr. KATZ. I regard it as being the district public works officer's responsibility. I think it is definitely the district man's responsibility.

Admiral JELLEY. I would look to the district man as being responsible, although, he has delegated part of his responsibility to the resident officer in charge at Memphis.

Mr. FURCOLO. Here is what I want to get at and I have to use the only type of illustration I know. For example, on a ship at sea the captain is responsible. But I know that often it is basically the so-called officer of the deck who really has the responsibility, although the captain has to assume it. Does your district chief correspond to the captain of the ship and is that resident man corresponding to the officer of the deck? The captain is in charge theoretically but actually he may not even have known about a certain operation. It may actually be the officer of the deck who is really in charge.

Mr. KATZ. I only want to add one thing to your ship example. The Chief of the Bureau of Yards and Docks is not the captain of the ship; he is the commander in chief on shore, as Admiral Nimitz was. He selects his district chiefs and is therefore responsible for them but he does not go out on shipboard with them. The district man is the captain of the ship. He is responsible for everybody under him. He has department heads under him. The engineering officer, the gunnery officer, and all the rest. And those are the equivalent of the local public works officers that we have.

Admiral JELLEY. Invariably, and it was done in the case in the Memphis contract. The plans and specifications were sent to the district office for review and were reviewed in the district office. So I would say that the district public works officer was responsible.

Now, if the plans never left Memphis and were reviewed by an organization in Memphis, then I think it would be more in the nature of the case of the captain of the ship being in his cabin in the middle of the night when something happened on the bridge when the officer of the deck was responsible.

Mr. KATZ. Let me add a few details. I don't want to lengthen this but just to strengthen that example. Memphis is headed by a resident officer in charge of construction. The district man (not the Bureau) appoints the resident officer in charge of construction.

Admiral JELLEY. It is the district officer's option whether he sends a full-time man from his district organization to be resident, or whether he arranges for the local public works officer to have additional duties as resident. In the case of Memphis, it was the staff public works officer who had additional duties.

Mr. KATZ. I don't know about Memphis, but in most cases the design man would have been picked by the district organization and supervised by the district man, and not by the Bureau.

Admiral JELLEY. The district picked them.

Mr. FURCOLO. I may have some more questions about this later. The other question I would like to ask now is this: We naturally are always looking to that side of the table for one thing or another. But very often, it develops that different departments or agencies will be handicapped in one way or another because of things that we in Congress have done as far as legislation is concerned.

CHIEF OF BUREAU OF YARDS AND DOCKS HAS ADEQUATE AUTHORITY AND POWERS

What I want to know—you can tell me either on or off the record, it's up to you—is there any authority you do not have that you feel you should have? Is there anything that Congress has done in the way of legislation that is preventing you from running your department more efficiently and more economically? Is there anything that we on this side of the table may be able to do to be of some help to you in achieving the goals that I assume you want to achieve?

What it comes down to is this: Are you happy as you are now with the existing regulations and rules that the Congress has set up, and that the military has set up? Or is the situation one where you are doing the best you can within a framework that you don't like, but you are hemmed in and bound in by regulations that perhaps are beyond your authority to change?

In other words, can we help you in any way?

Admiral JELLEY. Well——

Mr. FURCOLO. I don't want to embarrass you. That is why I said this can be on or off the record, at your wish.

Admiral JELLEY. This will be on the record. It is a difficult question to answer on short notice, but I must say that I haven't felt at all hampered by the actions of Congress over the last 20 years. Once in a while some procedure appears in the appropriation act that only

lasts 1 year. Some of them last for many years, which make our task a little harder. But I cannot object to them. For example, one such clause limited the size of the officers' quarters to 1,080 square feet, which made it a little harder for us to design a house of that size. But I have always accepted that as a matter of policy which Congress decides. I do not feel that you can turn us loose to work without any rules whatsoever. In short, I have no suggestion for either repeal of legislation or additional legislation. I think we are doing all right under the present rules. I do not feel hampered at all.

Mr. FURCOLO. This is the sort of thing I am talking about. The military has to procure certain materials. This may not apply to you, because it wouldn't come into construction as much as procurement. In procurement, the military has to procure certain materials where often they are faced with conflicting or inconsistent directives. They may want to award a contract over here to a certain man who they feel might be low bidder and do it most efficiently and economically.

On the other hand someone comes in and says that man is not small business. We want to give it to small business. There is policy or directive to do that. Someone else comes in and says that may be so, but over here is an area that is a critical area of employment and while this third man isn't either small business or isn't the most efficient or economical, nevertheless, taking the over-all picture of the Nation, it is more important to award it to this man in the critical area because we have to keep that business going. There can be additional complications, of course, but you see what I mean, I think.

I can see where in some instances, there is great difficulty on the part of a man trying to do a job because he is faced with conflicting directives and inconsistent rulings that my hamper him in some way. Apparently that does not apply to your department.

Admiral JELLEY. It doesn't apply to construction particularly. First, practically every construction company is small business, by the present definition because most construction contractors have a small number of permanent employees. They hire additional men as they get jobs.

Second, if we have to build something in New England we cannot very well give the contract to a Detroit firm simply because there is a lot of unemployment in Detroit.

It does apply, however, to our procurement of materials and equipment for direct Navy use. However that is really the headache of the contracting officers of the Bureau of Supplies and Accounts, not the Bureau of Yards and Docks.

We get it second-hand from them, but it applies to the point you have mentioned. Who are we to award to?

Mr. FURCOLO. In your own department you are not faced with that?

Admiral JELLEY. No, sir.

DELAYS IN GETTING MATERIALS; NAVY VIEWS ON NATIONAL PRODUCTION AUTHORITY

Mr. FURCOLO. You mentioned something the other day, and of course we do not like to ask people to complain about things, but you mentioned that a good many of your contracts have been held up because of the difficulty of getting materials of one kind or another.

Admiral JELLEY. That is right.

Mr. FURCOLO. And I, for one, have always felt that anything that was essential to the defense effort in the way of materials or anything else, should have a priority.

In questioning Mr. Small, I believe it was, the other day, who is head of the Munitions Board, I went into some detail to find out whether or not there was any sort of civilian production that was going on that was using materials of one kind or another to the detriment of the armed services. The answer as I recall it, it will be in the transcript, was that they were not. And from everything that I was able to learn, everything was clear sailing.

Frankly, I question whether that was so or not. My recollection of your testimony the other day—and I am not trying to put you in conflict with Mr. Small's testimony—my recollection was that you were having a few difficulties at least in connection with getting materials.

Now, if you are not, all well and good. But if you are, I should think that would be one difficulty you would be having, that Congress might be able to do something about. Is that or is that not a difficulty that applies to your department? Maybe it is a difficulty that applies to some other department.

Admiral JELLEY. I cannot agree with Mr. Small's answer if it was "No," because our actual experience is that we are being delayed both in construction and in purchase of equipment because of insufficient priorities.

If we had some kind of overriding priority to insure that every time we needed a piece of structural steel we could get it immediately, then our jobs would not suffer. We do not have that kind of priority.

However, as I look on the present situation, we are testing a system of priorities. We are not actually at war. We are in some kind of a build-up period, and we are giving this system the NPA has established a thorough test. I cannot say that we are being crippled because this construction job is 60 days behind schedule or that piece of equipment takes 10 months for delivery instead of 8. My hope is that the NPA is finding out all the angles necessary in this very complicated problem. It is a terrifically complicated problem. I hope that if we do get to a period of a greater emergency than there is now, they can immediately put new rules into effect. I would say they are now in a period where they are making decisions covering all the loopholes and will be prepared if things get worse, to close those loopholes immediately. I cannot truthfully go to NPA and say, "The Bureau is suffering badly because it is taking us 60 days longer to get steel." We are going to them, however, and asking why we can't get quicker deliveries. They are examining our industrial system and I feel that if the situation does become critical they are going to be in a position to immediately put out additional directives and clarifications and take care of the military requirements in better shape than they are now.

I cannot be too critical of the NPA because of the general situation. And I think it would be foolish for me to say we have to have steel no matter what happens to the schools, and the hospitals, and everything else, just so I can come up and report to you that every one of our jobs is on schedule.

Mr. FURCOLO. I think your example is a good one but that is not what I am getting at. I think that is what the NPA is doing and I don't mean to have you critical of them. But what I am getting at is this: the NPA or Congress or anyone else, cannot establish a basic over-all policy that is going to take into account the various needs of the civilian economy, and the military economy, unless it has the facts upon which to go.

Now, for example, if NPA is of the opinion that the Chairman of the Munitions Board was satisfied with the set-up as far as materials and scarce materials and things of that nature, so that there was no need to have any changes made, then certainly the NPA could not be criticized for thinking that way.

But, I think it is important, not in the sense of demanding more or criticising, necessarily, what is being done, but in realizing that the important thing is more or less an attitude of we are going to go along and do the best we can whatever the situation may be.

You have said that the fact of the matter is that you have had delays of 2 months or 3 months on various jobs because of the shortage of materials. You are not complaining about it, but that is the fact. If it is the fact, actually you have been somewhat handicapped in getting bids out and in getting the lowest and most economical bid, because of the fact that you have had to do this so many months ahead of time. You have to do it so many months ahead of time because you are held up by materials and so on. That is the sort of thing I am talking about, not so much for you people to be criticizing NPA, but if that is a situation to say so. Then it is up to us so that we will be in a position to say the fact is such and such and so and so.

As it is now, as I understand you, your position is this: that while your work may be a little easier if there were some relaxation of materials to you, that nevertheless, the situation is that you are able to get along, you are fairly comfortable about it. There isn't any great change that you would recommend.

Admiral JELLEY. In addition, I would like to say that I have noticed that when we really get into serious difficulties in buying some material, if we tell them the facts, they will issue an overriding directive on, say, 100 tons of steel or a ton of copper. I feel while the operation of the system as a whole is such that our priority over civilian construction is not very great, that whenever we do have a real emergency, NPA will come through. And I think that under the present situation, that is probably as good a way of operating as any.

NAVY IS GENERALLY SATISFIED WITH PRESENT AUTHORITY AND RESTRICTIONS ON CONSTRUCTION CONTRACTS

Mr. FURCOLO. To boil it down, if I ask you if you were roughly satisfied and could get along with the rules and regulations of NPA at the present time, in the amount of materials they are allocating to those who do work for your department, your answer would be that you are satisfied enough so that there isn't any great complaint you would have to make.

Admiral JELLEY. That is true. I think that applies to the system as a whole.

Now, there is no doubt in my mind that construction under a Government contract is more expensive than private construction.

Our specifications are more complete. Our inspection is more exacting. The Davis-Bacon Act applies, the Walsh-Healey Act applies in certain phases. But when Congress entrusts other people with the expenditure of the Government's funds they have to set up regulation to govern expenditure of that money. Congress could not give me $100,000,000 and say, "We trust you implicitly and you go ahead and make the best deals you can."

If I were not forced to operate under the Davis-Bacon requirements, and did not have to satisfy the Comptroller General as to the correctness of every one of our expenditures, I have no doubt that I would save as much as 10 percent.

Mr. FURCOLO. It might not be a saving in the long run.

Admiral JELLEY. As a matter of public policy I think it is perfectly proper to have the Comptroller General review my actions. I think perfectly proper to have complete plans and specifications because I am dealing through—I forget the exact number of personnel engaged in our field operations now, it is something like 3,000 people. But out of 3,000 people, even if there was something wrong with only 1 percent of them, either because they did not have the ability or were dishonest, that 1 percent or 30 people could get us into a lot of trouble. So I feel that the rules that have been set up over the years governing the expenditure of Government funds, while it results in more expense on individual jobs and a few more delays in awarding contracts, are thoroughly justified and I cannot complain. If I were in your shoes setting up a system, I would probably set up the same kind of system.

Mr. RILEY. Will you yield there, for a question, please?

DELAYS IN GETTING MATERIALS ADD TO CONSTRUCTION COSTS

Admiral, in your opinion, do you think delays in priorities and allocations add anything to the cost of the construction work which you are doing?

Admiral JELLEY. They undoubtedly do. The contractor has to allow a little more. He knows the job will take a little longer. He has to allow a little more overhead. He may have to pay a premium here and there to get some urgently needed material to prevent the job from slowing down. But I do not think it is nearly as great an additional burden as it would be if we had no NPA system at all. If we had no NPA system at all he undoubtedly would double or triple the amount he now allows. He would do the same thing for private work. He would assume he would have the same kind of delays if he was working for a steel company or utility company or something like that. They are not inordinate. We very rarely are in the situation where materials are so freely available that a contractor gets them just as he needs them. I would say that a few times during the depression when there was an oversupply of goods was the only time he was in that situation.

Certainly not in the last 10 years. We have not had that situation the last 10 years. He has always had to worry about getting cement in volume because there was such a terrific demand for cement. Steel was slow because there was such a terrific demand for steel. From 1945 to 1950 we were faced with just that. So I suppose contractors have just gotten used to the fact that there is going to be delay on account of material deliveries.

The good contractor overcomes that to some extent by not really starting his job in full force until he sees his material either on the job or in freight cars on the siding. He has thus minimized the additional cost.

NAVY DOES NOT DESIRE ADDITIONAL AUTHORITY IN CONSTRUCTION WORK

Mr. FURCOLO. Let us be sure that we understand each other. What I am trying to do, of course, is to foreclose any possibility on your part of coming in at some future date and stating that a better job and a more efficient and more economical job might have been done or might be done if it were not for this rule or this legislation or if it were not for some divided authority or divided command that you have objected to but can do nothing about.

As I understand your position to be, in general, you are satisfied enough with the existing rules and regulations and the existing way of doing business as far as those rules and regulations are concerned, so that you do not say to this committee, "Well, for heaven's sake, get me some change in authority or get me new legislation and I will be able to make some improvements."

Admiral JELLEY. You have stated it very succinctly.

DECENTRALIZATION OF CONTRACT AUTHORITY TO DISTRICT OFFICES

Mr. RILEY. In a contract the size of Memphis, I understand that the district engineer reviews that, and his decision is final. The contract is not sent up here unless it is requested by the Bureau; is that right?

Admiral JELLEY. No, sir. We get copies of every one of them. However, every one of them is not automatically checked prior to acceptance of bids. The checking in the Bureau is done on request of the project manager or for some other reason, but we do get a copy of every set of plans and specifications at the same time they go out for bids.

Mr. RILEY. Unless you request it to be sent to Washington——

Admiral JELLEY. It is sent in automatically. But the actual review in Washington of those plans and specifications is done on a request or spot basis in Washington.

Mr. RILEY. He makes decisions about award of contract unless he gets orders to the contrary from the Bureau here in Washington?

Admiral JELLEY. The situation is a little different on the award of a contract. As Mr. Katz said, the DPWO has certain rules set up whereby he can make the award without reference to Washington. If the low bid is not qualified, if it is within the estimate and is in order, he can go ahead and make the award without reference to us.

Mr. RILEY. Regardless of the amount of the contract?

Mr. KATZ. Up to $1,000,000.

Mr. RILEY. What type of contract?

Mr. KATZ. Competitive bid construction contracts up to $1,000,000. If it is over $1,000,000 or if there is any qualification or exception on the bid, if there is any question, he must refer it to the Bureau.

Mr. DONNELLY. On this matter of decentralization, Admiral, Mr. Katz has described your status as Chief of the Bureau in Washington,

and in each of the fourteen naval districts, we understand, there is a district public works officer. There is also an officer in charge of construction.

Mr. KATZ. Not always. If it is near enough to home for the district man to handle it, he acts on it himself.

Admiral JELLEY. In general there is a resident designated by the district officer.

Mr. DONNELLY. For each district is there an officer in charge of construction?

Admiral JELLEY. The district public works officer has an additional title as district officer in charge of construction.

Mr. DONNELLY. A dual role. As officer in charge of construction as distinguished from district public works officer, is he subordinate to the commanding officer of the installation, for example, the Naval Base at Charleston, S. C.?

Admiral JELLEY. Subordinate to me only, and his resident officer in charge of construction for a contract is subordinate to him only. That is a separate chain of command. The district public works officer is also subordinate to me. He is under the management control of the Bureau of Yards and Docks. But we have to exert that management control through the district commandant. That was one element put in when we had the district public works offices set up as an independent activity. Prior to 4 or 5 years ago, the district public works officer was a member of the commandant's staff.

It was changed 4 or 5 years ago to make the DPWO an independent activity attached to headquarters.

Mr. DONNELLY. In his status as district public works officer he has some working relationship at least with the district commandant.

Admiral JELLEY. Yes; for example, in transportation matters There are all kinds of daily problems, fire protection, sanitation and all kinds of matters that have nothing to do with new construction.

Mr. DONNELLY. Now with respect to the maintenance construction operations as distinguished from new construction—public works construction—is the district public works officer subordinate to the commanding officer of the station or district in the matter of the expenditure of funds for maintenance construction?

Admiral JELLEY. He would be up to the point that the contract was awarded, I would say. Once awarded, the contract is the sole responsibility of the DPWO. Up to the time that the station made money available for a contract, it was the station's option as to what was to be contracted for and how much was to be spent. After the station has seen the low bid and want to do that much work for that much money, and the contract is awarded, it is the district public work officer's responsibility from then on.

Up to then, the question of whether or not to do the work and whether that expenditure is justified is a matter for the local commanding officer or whoever has control of the maintenance money.

Mr. KATZ. We may have confused things a bit by not pointing out that there is no such thing as a public works officer on a construction contract. As soon as we decide that there is going to be a contract, we appoint an officer in charge of construction and 99 times out of 100 that is the same man putting on a different hat, but he exercises two separate functions.

Mr. PATTERSON. You gentlemen might understand it along a legal line. It is the form of the contract that makes the public works officer change his hat. It is the legal implications of relationship between contracting officer and contractor which comes through and overrides any chain of military command. Once you enter into a contract, it is on the same basis as a private contract between individuals. It cannot be interfered with by any military personality. It has to be done under a common legal basis as a contract between the Government on one side and the individual contractor on the other.

Admiral JELLEY. That concept is very well accepted by the military services once it is understood. Here is a definite written contract specification requiring that we do this or do that. Once that is understood, they realize that they cannot interfere. I would say most officers who have had 10 or 12 years of experience learn that just by association. So we really have very very little trouble in our contract work, even though it is being done right in the heart of a naval activity.

EXPLANATION FOR PIPE AND STEEL MESH AT CECIL AND BARRANCAS FIELDS

Mr. DONNELLY. Admiral Jelley, on Thursday last when we went into the matter of the pipe at Cecil Field, Fla., and Barrancas Field, Fla., you indicated that you would like to supply a statement for the record which you have supplied here this morning. And without attempting to paraphrase it, might I suggest that you state in the letter that the decision to use the reinforced concrete pipe at Barrancas Field was sound from an engineering standpoint.

Admiral JELLEY. Yes.

Mr. DONNELLY. May we put this in the record, Mr. Chairman, following the other documents for Barrancas Field?

Mr. RILEY. Without objection it will be placed in the record at the proper point, after the discussion of the Barrancas Field project.

(NOTE.—The document is printed earlier with the other Barrancas Field documents.)

Mr. DONNELLY. Thank you, Mr. Chairman.

Now, with respect to use of steel mesh, steel reinforcing and dowels, at Barrancas Field, we also have a statement this morning from the admiral in which you indicate that at Barrancas, the steel, both mesh and dowels, although purchased under the contract, have not been installed and that the change which you as chief through your line of command had directed—that is, to delete the steel mesh and dowels at Barrancas—had been effected.

May that also go in the record at the appropriate point?

Mr. RILEY. Yes, it may be inserted in the record.

(NOTE.—This explanation is also printed earlier in the record with the Barrancas Field documents.)

"PERMANENT" AS A CONSTRUCTION CONCEPT

Mr. DONNELLY. Admiral, I believe on Tuesday of last week we had a discussion with respect to the Navy's concept of permanent construction. If you recall, we went into the question of terminology used before congressional committees.

I have here a document which you supplied by your letter of February 19, 1952. This document is entitled, "Public Works Program, fiscal year 1953—Criteria for Determination of Program" and we find on page 2, the following, "Standards of construction," "Permanent type of construction (25-year life), etc."

Do you want to make any comment or observation to the committee with respect to your concept of the term "permanent construction"?

Admiral JELLEY. Yes, I would. To me, that indicates the confusion that results in people's minds, particularly in an engineer's mind, by the definition of "permanent" and "semipermanent" when it is tied to a number of years. It is very difficult for me to visualize a semipermanent construction that you can tag with a 20-year life and a permanent construction that you can tag with a 25-year life.

I believe Mr. Furcolo suggested that it would be much better to specify materials of construction which would be considered permanent or semipermanent or temporary. I believe the Air Force has tried to do that. I recall in their definitions of "semipermanent" and "permanent," they spoke of the materials to be used in the foundations, the walls, the roofs, and so forth. I have directed our design people to examine that question and see if they cannot clarify our definitions of "temporary" and "permanent," so that an engineer would understand them immediately.

I find it very difficult to say that anything is permanent unless it is going to last a long time and 25 years doesn't mean a long time to me personally.

Mr. FURCOLO. Might I interrupt you a minute there? I know the engineers have a difficult time with these two terms, but they tell me that in the Federal Government there is nothing more permanent than a temporary Government employee. I can appreciate why an engineer would have difficulty with such terms.

WINDOW SASH ON MEMPHIS BARRACKS

Admiral JELLEY. There was one other point that I would like to mention. We had a different opinion earlier regarding the steel sash on the job at Memphis, where you indicated that you had been informed they were the most expensive type and cost $100.

Mr. DONNELLY. Up to $100.

Admiral JELLEY. I find that Commander Stelger in his visit to Memphis was able to clarify that point and I find that we were both right. Originally, the type of sash you had mentioned, the Donovan type I believe it was called, had been specified. It had been taken out of the specifications and the only reference was one place on one plan that your investigator had picked up. That was where the term "or equal," had been used. They had spotted that in their reviews of specifications and had removed every reference with this one exception. The sash used was not Donovan sash and not Truscon; it was a Detroit Steel Products sash. So your interpretation of Donovan sash being the most expensive type and costing up to $100 was perfectly correct because there was one point where it had not been noticed on the plans.

The contractor did not bid on Donovan type sash because the specifications control and the specifications did call for a cheaper sash.

We did not have knowledge of the details at the time it was being discussed and did not realize that or we could have straightened the matter out immediately.

Mr. DONNELLY. For the record, you reported back, as I recall, that the Donovan type sash would cost $45.50 on the Memphis barracks.

Admiral JELLEY. No, sir; the sash actually used at Memphis was forty-five dollars and some odd cents, but it was not a Donovan sash. I did not realize at the time that it was not a Donovan sash.

Mr. DONNELLY. Is $45.50 apiece for metal sash for enlisted men's barracks a high figure to pay for windows?

Admiral JELLEY. That is a difficult question to answer. Yes, it is a high figure. They had selected what is known as an architectual projected sash, one that gets 100 percent opening. The sash opens up like an awning and you get full opening. You understand, of course, in the ordinary household type window, where you raise the lower sash, you only get half the opening. There are types of metal sash that are cheaper than architectural projected sash which have in the neighborhood of half the window opening.

When they determined at Memphis that because of climatic conditions they wanted 100 percent openings and also wanted a type of sash that could be opened while it was raining, the architectural projected sash was the cheapest kind they could get. They could have gotten a cheaper sash but it would not have given them full window opening and they would not have been able to open the windows during rainstorms. From that point of view, it was not the most expensive kind. But you could have gotten a cheaper sash at Memphis, but it would not have done nearly as good a job and the people living in the dormitories would not have been nearly so comfortable in rainy weather.

Mr. SULLIVAN. I have one comment I would like to make. When speaking of sash, most people think of a sash in an ordinary dwelling which runs around 3 feet wide by 4 feet 6 inches high. They cost in the neighborhood of $20 apiece. That is not installed, but weatherstripped.

When you are thinking in terms of a barracks, you are thinking of a much larger size sash. Since the sash are larger the cost per unit would be greater.

Admiral JELLEY. But in general they could have picked a cheaper sash than architectural projected.

Mr. SULLIVAN. They might have, but for the 100 percent ventilation they were trying to get, I do not think $45 is an excessive price to pay for that kind of window.

Admiral JELLEY. What would the cheapest steel sash on the market cost; $30 to $35?

Mr. SULLIVAN. I would say it would probably range around that, to maybe, as Mr. Donnelly said, up to $100, depending on what you wanted to pay.

Mr. PATTERSON. You have a much more complicated ventilation problem in group living than you do in an ordinary home with only three or four people in it.

Mr. RILEY. Are those openings standard?

Mr. SULLIVAN. Yes, sir. All sash manufacturers have stock sizes.

Mr. RILEY. This is stock size sash?

Mr. SULLIVAN. I imagine they are. We generally try to follow the manufacturer's stock sizes wherever possible in doors and windows.

Admiral JELLEY. That is one industry that standardized back in the thirties as I recall it. It used to be that each sash manufacturer had his own line. One of them would be half-inch wider or half-inch taller than the next one. They did get together and standardize. I believe the Department of Commerce spearheaded that back in the thirties. They have tied into building construction, using the widths or shapes that tie in with brickwork, for example. They come in even inches to make it easier for the carpenters to lay them out.

Mr. RILEY. Do you have any experience to show what the maintenance on sash of the type used would be in relation to the maintenance on the cheaper type?

Admiral JELLEY. I think it would be the same. They would have the same number of moving parts, the operating parts, the same area of steel would have to be painted and about the same area of glass. These have rather large pieces of glass in them, while other sash have smaller pieces. So I suppose you might have a little more expense if the glass is broken in replacing one large piece than one small piece, but it has been my experience that glass in barracks is not broken very often anyway. But in general I would say there is no difference in maintenance. Would you agree with that, Commander Stelger?

Commander STELGER. No, sir; in actual public works experience on some of these center-pivoted sashes they have a tendency to get away from persons opening them, or the wind may take them and raise the rod with notches in it for holding it in a partial open position. The next thing that happens is that it slams and smashes glass and springs the frame out of shape, where you have this butterfly effect which turns this way [indicating]. The projected-type sash has a guide which holds the bottom corners and upper corners and is not going to get away from anybody.

Mr. RILEY. There is a tendency for them to stick at the top, isn't there?

Commander STELGER. Yes; I think you will have that with both sashes, sticking or improper closure where you have drafts coming through. I think that would be common with all steel sash. What I mean to point out is that your breakage factor is much more with center-pivoted type of sash.

Admiral JELLEY. I will defer to Commander Stelger's opinion. That is a point I wasn't familiar with.

Mr. RILEY. Mr. Furcolo, you had a question there?

Mr. FURCOLO. It was with reference to the remark you made just before that about the fact that sometimes it was easier for the carpenter if you had certain measurements and then you gave a couple of other illustrations. I meant to ask you this before but I forgot it.

CONSTRUCTION PRACTICES HAVE RESULTED IN CERTAIN STANDARD DIMENSIONS

Does the amount of space that has been allocated per man—that business of 72 and 120 feet and so on—come into this in any way?

Admiral JELLEY. No, sir. What I was thinking of was modular construction which has been urged, for the last 15 years. This is an attempt to get building products in 4-inch multiples, because brick is

8 by 4 by 2. We attempt to fit all dimensional materials into brickwork so that everything is exactly the right size. Then the bricklayer does not have to cut bricks. We try to make the radiators, piping, wiring, and everything else fall into a 4-inch multiple, so that it results in a more economical use of material. It is rather difficult to carry out in practice and a great many architects are not in full sympathy with it. On simple straightaway buildings, and barracks generally, this type modular construction has definite advantages.

Mr. FURCOLO. At any rate there are no rules or regulations that bother you in connection with doing that if you feel it is a good thing to do?

Admiral JELLEY. No. As a matter of fact, I would say in the 120 square feet per man example, if you changed the dimensions from 4 to 4½ inches, the effect on the 120 square feet would be less than a tenth of a percent.

Mr. DAVIS. Off the record.

(Discussion off the record.)

Mr. DAVIS. Two things I would like to ask before we get to the specific problem of Memphis, Admiral.

A little while ago in answer to a question by Mr. Furcolo, you stated that you were reasonably content with the rules under which you had to work. I assume that would be subject to whatever conclusions that would be drawn from the information which you told us you would furnish us Thursday with respect to the actual allotment of funds by the Bureau of the Budget.

Admiral JELLEY. Yes, sir.

ISSUANCE OF LENGTHY ADDENDA IS BAD PRACTICE

Mr. DAVIS. The second question that I had was with respect to the naval air station at Denver which was cited in the investigators' report with respect to inadequate information on which bids were requested requiring six addenda thereafter. I do not believe we have had an explanation of that particular thing in the record thus far. I thought we ought to do it before we get on Memphis.

Mr. KATZ. I do not recall our being asked about it; if I may say so.

Mr. DAVIS. That is probably correct, but I think we ought to ask about it before we get into Memphis.

Admiral JELLEY. I would like to answer that question on a general basis rather than applying it to Denver particularly, because I do not know the exact circumstances of the Denver case.

But in general, when you are trying to get out plans and specifications in a hurry, as was done on this entire second supplemental program, you released your plans and specifications before they were fully reviewed by the local Navy people and the district Navy people. Changes show up as they are reviewed by Navy personnel which have to be made by addendum. In addition, as contractors get the plans and specifications, they find things that puzzle them and come to the Navy and ask, what do you mean here and do you really want this there? And when the Navy clarifies the question, they have to put out an addendum, so all contractors will know the answer.

So I would expect in a program where we have a limited time for preparing plans and specifications, we would generally have a large number of addenda.

Now, it is usual to have one or two addenda to a specification, because it is practically impossible to do a perfect job, even if you have all the time in the world. It is a case of people trying to express something by the written word and not making it clear to every reader. So I would say that even if you had plenty of time to write plans and specifications, you would get two addenda on the average.

In a time such as we have had in this past year, when the plans and specifications for the second supplemental program were prepared in a hurry, I would say that four or five addenda would be average, but even under the circumstances, six sounds a little heavy to me.

Mr. DONNELLY (handing a document). Second paragraph.

If I may read this portion of the investigators' report.

(The excerpt reads as follows:)

Another case in point is at the Naval Air Station, Denver, Colo., where the architect-engineer convinced the BuDock representatives that the plans were complete and adequate for bidding purposes, but after advertisement for bids were made and after plans and specifications were issued prospective bidders, it was found necessary to issue six addenda, including 73 pages, during the bidding period. Soon after award of the contract, it was decided to raise the elevation of the hangar at an estimated cost of $17,000 and it was stated by a representative of BuDocks that he anticipated other changes which might increase the cost as much as $85,000 to $100,000.

Admiral JELLEY. We have in six addenda—this is significant—six addenda, comprising 73 pages; a normal addenda is a one or two page affair. Here are six addenda averaging 12 pages per addendum. I would say that is very excessive. Do any of you happen to have any knowledge of this hangar at Denver?

Mr. PATTERSON. We will check on it this noon and have an answer.

Admiral JELLEY. Will you let us check this noon and let us answer it then? I would say that is not desirable at all. We would not like to see every one of our jobs having 73 pages of addenda, and I would look on this as something to be investigated as to whether we had an adequate architect-engineer or an adequate Navy liaison.

Mr. DAVIS. It is a fair conclusion to draw that certainly something of that kind is going to increase the cost to the Navy of such a project, isn't it?

Admiral JELLEY. Not necessarily.

Mr. PATTERSON. It might reduce the cost by clarifying the specifications. That is the purpose of it.

Mr. KATZ. You mean preparing the bid?

Mr. DAVIS. I mean the over-all cost of getting the project usable by the Navy. Sure.

Mr. PATTERSON. More apt to decrease the cost. That is the purpose of putting them out.

Mr. DAVIS. It may decrease the cost through clarifying inadequate specifications in the first place but if the specifications had been adequately prepared in the first place, isn't it fair to say that it would have the effect of increasing the cost?

Mr. KATZ. That is correct. Presumably, the contractor started to figure on one basis and after a week or two we threw him 72 pages of additional material, which caused him to retrace his steps and he had to redo part of his work. That means dollars and cents.

Mr. PATTERSON. That would not necessarily be reflected in the price to us. There again, the bidding contractor must keep in mind his competition. You just can't keep adding every little item of cost.

Mr. DAVIS. Except that we will have to assume that every contractor who submitted a bid took the length of the addenda into account. If you believe at all that extra costs of this kind are going to be paid for by the ultimate consumer, then you will have to believe that each of these contractors had to have that in mind at the time he finally did formalize his bid and submit it, wouldn't you?

Mr. PATTERSON. Yes.

Admiral JELLEY. It would be part of his cost of doing business. It would average out over the years but to my mind, even more important, it would be setting up in the contractor's mind the question, "Do they know what they want? I had better play a little safe; if this keeps up all during the life of the job, I am going to have lots of trouble." Actually in a place like Denver where we don't do too much work, we have a reserve air station there and I suppose most of the contractors and the companies in that area have had very little experience with the Navy. So, if their first experience with the Navy is a job where they get 73 pages of addenda, they will think these fellows don't know their business and we had better stick in another 20 or 30 thousand dollars to take care of arguments during the construction.

Mr. KATZ. How big was that job, do you have any idea?

Admiral JELLEY. $2,000,000. It was a hangar.

Mr. DAVIS. Off the record.

(Discussion off the record.)

(NOTE.—The Navy explanation of the addenda problem at Denver is as follows:)

DEPARTMENT OF THE NAVY,
BUREAU OF YARDS AND DOCKS,
Washington D. C., February 29, 1952.

JOHN J. DONNELLY, Esq.,
Counsel, Subcommittee on Military Construction,
Committee on Appropriations,
House of Representatives, Washington, D. C.

DEAR MR. DONNELLY: During the course of the hearings, data was requested on the construction of a hangar at the Naval Reserve Air Station, Denver, Colo., particularly with reference to the several addenda to the specifications; total of six embodied in 73 pages.

The architect-engineer contract NOy 24779 was awarded January 20, 1951, with the intention to complete plans and award a construction contract prior to July 1, 1951. Considerable unexpected delay was encountered in establishing allocation of hangar, shop, and office space, and many conferences with cognizant commands and clearances by the Bureau of Aeronautics and the Bureau of Yards and Docks were required. Such conferences were justified since the Denver hangar is a proposed prototype to be used at other locations in the future.

The district public works officer states that plans and specifications were finally received from the architect-engineer on May 24, 1951, and were immediately released to bidders without the usual district public works officer review in order to allow a maximum period for contractor estimating prior to submission of bids on June 29, 1951. The time schedule did not permit review of plans by the district public works officer and the architect-engineer prior to advertisement. The necessary review, however, was made during the bidding period and addenda were issued as required. The district public works officer states that close personal liaison was maintained with all prospective bidders and that no complaint was received nor was there any evidence that the unusual number of addenda modifications affected the cost. The closeness of the bidding (six bidders) with a range from a low of $1,716,000 to a high of $2,023,119, a differential of only $307,119, would tend to indicate a highly competitive market and the absence of any large contingency allowances. It might be stated at this point that, with no pressure and with normal time allowances for review, the addenda would have been incorporated in a reissued specification.

The delay in award notice by the district public works office until August 3 was caused by insufficient funds for the naval air station program. This was overcome by reprograming of funds from another air activity.

It is also understood that the Bureau of Aeronautics used the delay to reexamine the need for the hangar and arrived at an affirmative decision.

The district public works officer states that the former public works officer of the Denver station, who is now on training duty, advises that a conference was held in 1949 between the Air Force Base, Lowry Field, the Naval Air Station, Denver, and the Colorado Air National Guard regarding joint utilization of facilities. The decision was made that operational requirements of the Lowry Air Force Base would not allow additional activities and that the Air National Guard would be a joint user at the aval air station. It is also understood that the Air National Guard has been activated but that the Air Force still desires the use of the facilities.

It is believed that the foregoing will give a comprehensive picture and will cover the points brought up in the hearings.

Sincerely yours,

A. D. HUNTER,
Captain, CEC, USN, Deputy Chief of Bureau.

NAVY ECONOMY DIRECTIVES

Mr. DONNELLY. In the course of our discussion of economy directives in the Air Force and the Army, we inquired about such directives of the Navy. Subsequent to our discussion of directives on economy and conservation of materials, Admiral, you furnished a letter dated February 19, 1952, enclosing some documents on that point.

In order to handle this feasibly for the record, I wonder if the committee would permit a representative of the admiral and myself to go through these documents and print in the appendix those comments which the admiral may want. Is that agreeable, Mr. Chairman?

Mr. RILEY. Without objection, that may be done.

Admiral JELLEY. I will designate Captain Ventres to work with your committee.

Mr. DONNELLY. That cleans up all the tag ends.

We will go into the Memphis situation.

Admiral JELLEY. I would like to make a brief opening statement and then turn the matter over to Commander Stelger.

MEMPHIS PROJECT

DELETION OF ITEMS OF OVERDESIGN

As a result of the questions brought up by the committee on Memphis which were detailed questions requiring some study at the site, I sent Commander Stelger, who is head of our Engineering and Technical Services Division and Mr. Ebert, who is our principal architectural specifications man. I would like to add for your information that Mr. Ebert is an outstanding man along these lines and is now president of the Construction Specifications Institute of America. That is in the nature of qualifying him as an expert. Mr. Graul, a mechanical specifications writer, also accompanied them.

This group went down to Memphis, worked with AE people and local navy people at Memphis, looked into each of the points that were brought up by the committee investigators and each of the points that we picked up on our review. As I told you, I had authorized Commander Stelger to stop any work that he considered not in the spirit of Admiral Sherman's directive or that didn't seem to him to be essential to the project.

He was able to stop a number of things, some of which were brought up by the committee's investigators, some of which we had discovered and some of which appeared on both lists. While the amount of money concerned, some $60,000, is only a small part of the $6 million contract, I think the fact that we went down there and stopped work on what may be considered nonessentials will have a very good psychological effect, not only at Memphis, but in the whole Sixth Naval District and in our operations as a whole.

There were other things that he found, some of which have been brought out by your investigators and some of which we had questioned, that had progressed too far so that it would not result in any saving of funds and might result in additional expense if we changed them now. They were points in general which if we had been designing the job with our own forces in the Bureau, would not have been included.

Commander Stelger and Mr. Ebert are available to answer any detailed questions that you might wish to ask on this.

Mr. DONNELLY. I wonder if Commander Stelger would like to make a report to the committee at this time with respect to his activities last week in Memphis and what has been accomplished there.

Commander STELGER. We arrived in Memphis Tuesday evening and had a meeting that same evening which included the resident officer-in-charge and his staff and the contractors two principal people on the job site. The architect's project manager and specifications head did not get in town until the small hours of the night. We gave them the gist of what our problem was, to let them think about it, and we pitched in Wednesday morning and worked all day then and Wednesday night and all day Thursday until 3 o'clock we came back.

We found the resident officer's people, prior to any occasion of investigation, have not been asleep. They have scanned the plans and specifications from time to time and have made eliminations on their own accord of some $21,262.

Admiral JELLEY. Why don't you indicate what they were? One of those was interesting. It was screens on windows of training buildings in a portion that had large hangar-type doors and they felt there was no use of having screens on windows when you had huge doors that could not be screened.

Commander STELGER. They made a practical determination that the screens were not really necessary. Then in boiled-down form I gave the officer-in-charge a directive requiring him to make these following eliminations:

In the barracks I requested the elimination of suspended metal lath and plaster ceilings in toilets and scrub rooms. Also eliminate same from walls down to wainscot. That appeared both on the committee's list and also on our own specification writer's list.

Mr. DONNELLY. What was that down to the wainscoting?

Commander STELGER. Down to the wainscot. Your list indicated eliminate the plaster ceilings and their furring. There is that area from that ceiling line down to the wainscot, if there is wainscoting, or otherwise down to the floor. I called for taking that plaster out also.

Mr. DONNELLY. What is left, the interior of the concrete block?

Commander STELGER. You have exposed concrete block for your sides and the exposed under side of the concrete slab, and below that

is your wainscot in spaces where you have a glazed structural tile wainscot.

Mr. DONNELLY. Does that particular type of concrete which I believe the admiral told us was hadite, does it add anything to the appearance on the interior, that is the side of the wall on the inside, different from plain concrete?

Commander STELGER. It is like a cinder block, it has a rough appearance, pebbly and dented and perforated. It has this plain surface, no special treatment at all on it.

Mr. DONNELLY. No need to paint it?

Commander STELGER. You do put a sealer and paint on it. On the inside. That is more for damp proofing and for light reflection.

Mr. DONNELLY. Could you give us an idea as you go down this list how much money is saved? Your first item was suspended metal lath in toilets and scrub rooms.

Commander STELGER. I have an estimated item on lathing and plaster. It concerns all buildings, $17,000.

Mr. DONNELLY. Barracks, mess hall and training building?

Commander STELGER. Yes; barracks, mess hall, and training buildings.

Mr. DONNELLY. How about the next item that you have mentioned there, eliminating the plastering from ceiling down to wainscoting?

Commander STELGER. That is included.

The next item was eliminating all plate glass from sash and substitute double strength B quality sheet glass except on panes exceeding 12 square feet.

Mr. DONNELLY. Is that quarter-inch plate glass that you are speaking of?

Commander STELGER. Yes, that would be the quarter-inch plate glass. You want to differentiate there, that on panes larger than 12 square feet in area, anything less than that weight of plate glass would not be structurally adequate either from wind pressures or suction that you will get from time to time.

Admiral JELLEY. You are talking about sash, not doors? You mentioned plate glass in doors I believe, in the mess hall.

Commander STELGER. It is just the sash, plate glass in window sash.

In other words, fitting again in your fenestral steel frames, you have to glaze between the dividing strips. Some of them have been called for as plate glass. We called for the common B quality double strength glass which you would use in any small residence.

Mr. DONNELLY. Is this common B quality glass going into the sash in the barracks, for example?

Commander STELGER. Yes, except around the entrances. In some of those areas they have used plate glass.

Mr. DONNELLY. How about the regular window alongside each of the cubicles for the enlisted men, what type of glass would be there now?

Commander STELGER. Common B.

Mr. DONNELLY. There before and there now?

Commander STELGER. Yes, they continue the same way. That was a good commercial grade of specification. In excess of 12 square feet there are several large panes in there which, well, the common B quality glass just would not stand the wind pressures.

Mr. DONNELLY. On that point, would there be a pane of glass in excess of 12 square feet?

Commander STELGER. The front entrances of these 10 barracks, alongside the doors, I believe, there are some large glazed panes.

Mr. DONNELLY. From the standpoint of austerity, from that standpoint alone, is it necessary or desirable to have a plate glass in excess of 12 square feet in an entrance doorway, solely for the purpose of appearance?

Admiral JELLEY. Shouldn't they have designed it that it would be less than 12 square feet in the first place?

Mr. DONNELLY. Or have a door?

Commander STELGER. I talked it over with Mr. Stanley, the architect and also Mr. Davis of the contractors' office and they said it would cost more if we were to put in steel frame within the divided muntins and mullions strips.

Mr. DONNELLY. Still with glass?

Commander STELGER. Still with glass, the large plate-glass panel.

Mr. DONNELLY. What I was getting to is this, Why in a schoolhouse do you have a plain door like that door there [indicating], and not a plate-glass or divided glass door? Why couldn't they have plain door entrances to barraks, if austerity is the criteria?

Commander STELGER. You would want some glass in there for fear of swinging the door in the face of a party on the other side.

There could be perhaps in the lower portion of the door nothing other than architecture, not necessarily a function of necessity, but it is a very small item, very small percentage of the job.

Admiral JELLEY. These were alongside the door. It was not movable at all, just an insert to allow light inside.

Commander STELGER. That is to allow light into the inside of the entrance there, the NCO club and the lobby space there. As Mr. Ebert points out that the substitution of glass for nominal wall construction is cheaper. What I am pointing out is that in these instances here, surrounding the entrance door, we get both the pleasing effect for architecture and also at no more, if not a little less, cost than had you divided it up with steel framing. I am talking about the space surrounding the door.

Mr. DONNELLY. From the standpoint of austerity, Commander, one of the things the committee engineers thought would well be eliminated was the 10 projected entrances which by the very nature of their construction are most expensive. You have an 11-foot projection, you have brick wall coming up on a diagonal so that the maximum projection at the roof is 15 feet, you have all that plate glass running here across the face of the first and second floor. You have the stone trim and the like. Has any attention or consideration been given to eliminating the frills from these projected entrances?

Commander STELGER. Let me take that element for element. You mentioned 11-foot setback from here to here. Now, you could have made that 40 feet or you could have made it nothing. The shifting of this connecting wing back this way or that way means absolutely nothing in construction.

Mr. DONNELLY. The wall here across the face would be here if there were no projections. Isn't that right?

Commander STELGER. That is right.

Mr. DONNELLY. And the two projection walls on either side are in addition if you have a projection, isn't that right, sir?

Commander STELGER. Not at all. This piece of wall you see here would fall from here back to here making that enclosure. Do you follow me?

Mr. DONNELLY. I don't think I do. If you had a straight wall across here, there would be no wall here outside of a partition wall.

Commander STELGER. I didn't make this clear to you that the amount of area in here is required by criteria to provide the lounge space.

Mr. DONNELLY. That gets us down to what we had discussed earlier on your peacetime criteria; the lounge could have been put by an architect in a different area. For example, he could have utilized this roof-terrace area, or diminished the width of the arcades or abolished the arcades and put the lounges where they are. But from the standpoint of price now, is there any way that these projected entrances can be minimized so that we would not be providing the plate glass for appearance, for example, and the projected winged walls for appearance?

Commander STELGER. With regard to the plate glass, I have answered that in my statement that on these lights, larger than 12 square feet, you need plate glass for the structural strength.

There are various manners in which you can form a wall. This happens to be glass wall. If you built it with conventional wall structure, it would cost you more than glass. If you wanted to eliminate plate glass you would have to put in divided muntins and mullions, in which there is more steel work. In talking with the contractor and architect about that, he said it would cost more money to do it that way.

Admiral JELLEY. Mr. Donnelly mentioned that if you moved this whole wing back—14 feet, was it?

Mr. DONNELLY. Eleven feet.

Admiral JELLEY. Eleven feet and had a straight front on the building [indicating plan], by moving this back or making this a little longer to take care of that additional area, it would be cheaper to build them in the structure as a whole rather than building these 10 little individual projections.

Commander STELGER. What I want to point out is that we can take this connecting wing for example and transpose it up and down the line so long as we don't go beyond this point or that point, and it would not cost you a penny more. You have the same areas of construction regardless and setting this back these 11 feet you take this stretch of wall from here to here, and you are putting it out there instead of your wing which would have fallen in here. The piece of wall here to here [indicating], is merely instead of being outside wall there, becomes outside wall here.

Mr. FURCOLO. Apparently saying it is not really a projection—that your measurement is that much regardless what this is.

Commander STELGER. It is a projection but your quantities of walls that are being built will be the same in any event.

Mr. RILEY. On that question, if the front of the building were flush all the way you would save a little something in labor instead of making those contours, wouldn't you? Because you would still have straight walls behind the front wall?

Admiral JELLEY. I think you would save something.

Mr. RILEY. There would be something saved, whether it would be worth while or not, I do not know, but there would be some saving there, particularly in labor.

Commander STELGER. More corners and more plumbing up the brick work on the corners.

Mr. RILEY. Is that correct?

Commander STELGER. Yes, sir, I agree with you.

Mr. DONNELLY. Can we agree that the 10 projected entrances are expensive and the type of a frill that could be eliminated in austerity, or does the Navy insist——

Admiral JELLEY. I think they would have been reduced in cost, without a doubt. Personally I like the idea of a projected entrance to break up that long smooth wall. But by eliminating the cut stone and by adopting a simpler type, I think the cost could be cut down somewhat. I will agree with you and I think Mr. Sullivan will, too, that a cheaper job of making an adequate entrance could have been done, an entrance that would have been architectually pleasing and cheaper than the solution the architect made.

Mr. SULLIVAN. You can cheapen any doorway if you want to get down to rock bottom. It is a question of how far you want to go. You endeavor to make an entrance attractive and, you want some protection from the weather. That was this architect's way of doing it. I think that if it had been done some other way it would have been just as expensive.

MONEY THAT COULD HAVE BEEN SAVED AT MEMPHIS

Admiral JELLEY. I think he could have saved some money, not much, but some, and in my position, I can't condone the unnecessary expenditure of even $1.

Mr. DONNELLY. Of course, if we take it up item by item, we may get into a few thousand dollars here and a few thousand there, but the problem I started out with was that if you added all the things up that may be eliminated you might save a million dollars in the aggregate. I have not tried to do it, but I would think that this type of building is sufficiently ornate that it could have been constructed for considerably less than $6½ million if some of these things were eliminated.

Admiral JELLEY. By going through all the items on your list and deciding which ones were really valid, I think we may have saved up to $300,000, which is about 5 percent. I think if we had gone to a 3-story structure, instead of a 2-story structure, which means that instead of having 5 wings we would have had 3 wings, we would have made a saving up to a million dollars. But by going through item by item of the so-called frills, the dollar value isn't great. A radical saving could be accomplished by making it a 3-story 6-wing structure instead of a 2-story 10-wing building. I think you might have approached a million-dollar saving. However, our criteria had been based on a 2-story building and I don't think they ever thought of three stories.

Mr. DONNELLY. The Bureau has furnished the committee a number of photographs of the progress of the training barracks. It would appear that almost all of the construction down there at the present time is wood.

Admiral JELLEY. Wood frame with asbestos siding. It was built almost entirely on a temporary basis during the war.

Mr. DONNELLY. Semipermanent.

Admiral JELLEY. Yes, semipermanent is more accurate.

Mr. DONNELLY. These barracks would be from what I can see in these pictures, the only permanent installation there.

Admiral JELLEY. There may be some hangars and shop buildings that are of permanent construction, but as I recall Memphis, practically everything is wood frame with asbestos siding.

Mr. DONNELLY. For that climate, could not wood frame be considered as permanent, that is 25-year life?

Admiral JELLEY. I would rather have Commander Stelger answer that.

Commander STELGER. They are already having very heavy maintenance costs against these very buildings. I have a picture of some of those where they have had to work them over. You see the sagging [indicating]. There is daylight in these portions where they are worn up to where the tongue and groove are practically disengaged. Here is a better picture showing what happens on those wooden floors.

Some of that sagging that you notice there [indicating] is due to rotting and failure of the structure below, the joists are beginning to give out.

Mr. DONNELLY. The buildings for which we have pictures of the floorings here were constructed in a hurry back during World War II, were they not?

Commander STELGER. Yes, sir; about in 1942 is when this building was built.

Mr. DONNELLY. There was some difficulty getting lumber that was not green.

Admiral JELLEY. There still is.

Commander STELGER. We still have that difficulty. They are selling it faster than they are producing it. It is not cured at all.

Mr. RILEY. This picture shows a building about 10 years old?

Commander STELGER. Not quite. It was built during 1942.

Mr. RILEY. The committee will recess until 2 o'clock, because we are about to go into something else.

MONDAY, FEBRUARY 25, 1952.

Mr. RILEY. The subcommittee will come to order.

DENVER ADDENDA SITUATION

Admiral JELLEY. Might I make a statement on Denver first?

Mr. DONNELLY. The admiral would like to make a statement on Denver, if that is agreeable with the committee.

Mr. RILEY. All right.

Admiral JELLEY. Mr. Davis, I could not ascertain during the noon hour just what the difficulty was at Denver. It looks as though the Government forces had thoroughly reviewed the architect-engineer's plans and specifications and found a lot that required changing. Whether he went overboard in his design or whether he had inadequate specifications in the first place, I could not determine in the short

time available. However, it was an experienced man who had done a lot of other work for the Army and Navy, and I am a little surprised that we had that many changes. If the Bureau had done the reviewing and found that many changes required, we would have canceled the whole specifications and issued another new set of specifications rather than 73 pages of addenda. It is rather hard to follow when you have that many changes. It is easier to cancel the whole specification and reissue it.

I will check with the Ninth Naval District at Chicago and find out why so many changes were necessary, and submit that for the record.

(The Navy's explanation is printed above at p. 272.)

Mr. DONNELLY. We did see in the Ninth Naval District they had obligated 94 percent of their entire funds for the year in that one month of June.

Admiral JELLEY. From a timing standpoint these addenda were issued from the 8th of June to the 20th of June. The bids were opened the 29th of June. So that they seemed to have plenty of time for having the plans and specifications out. They had not reduced the amount of time that the contractor had to study the plans and specifications.

Mr. DONNELLY. I wonder if we should not put the contract number in. It is contract No. 27731 for construction of a reinforced concrete hangar and lean-to's at Denver, Colo. The pertinent information on it, as we have it here, since we have discussed it in the record now, is as follows:

Advertised for bids, May 24, 1951;

Original bid opening date, June 22, 1951;

Bid opening time extended first to June 27, 1951, and then to June 29, 1951.

Now with respect to the timing of the addenda we have an addendum No. 1 on June 8, 1951, consisting of two pages;

We have an addendum No. 2 on June 11, 1951, consisting of eight pages;

We have an addendum No. 3 on June 12, 1951, consisting of 27 pages;

We have an addendum No. 4 on June 14, 1951, consisting of 19 pages;

We have an addendum No. 5 on June 20, 1951, consisting of 15 pages;

We have an addendum No. 6 on June 22, 1951, consisting of two pages.

The addenda, as previously indicated, total 73 pages.

The bids were opened June 29, 1951, and contract was awarded August 8, 1951, in the amount of $1,716,000. There were seven bids received. The bid range was from $1,716,000 to $2,023,119.

Are those statements accurate?

Mr. GLENN. As far as I can tell from checking; yes, sir.

Admiral JELLEY. That is pretty close bidding. $300,000 is pretty close between the high and low bid. I do not think we can say the specifications were such that the bidders were confused. We have had higher bids than that. They may all have added a little bit to their bid to take care of possible future changes. A 15-percent range from high to low bid is, I would say, a good average spread.

Basis of Savings at Memphis

Mr. Donnelly. That gets us back to Memphis, as I understand it. I also understand that the savings that will be inaugurated are in the amount of $60,000 and that you, Admiral, had indicated this morning there could have been a possible saving of $300,000, which would have been about 5 percent of the contract.

Admiral Jelley. Yes.

Mr. Donnelly. In saving the $300,000, did you have in mind the more austere construction practices as against frills, or did you add also to that, economy in space?

Admiral Jelley. I did not include economy in space. I did not include brickwork as against cement block. I was thinking of such things as terrazzo flooring and the various materials of construction, like cut-stonework, plate glass where it had been used, and more of items along the line of frills. I was not thinking of less space or different types of construction. I was thinking of those items that we might have combed out of the plans and specifications if they had been reviewed by us. We would have made changes down the line which I think would have totaled approximately $300,000, and the utility of the structures would have been substantially the same as it now is.

Mr. Donnelly. Now, Commander Stelger, I take it, will finish his list and the total there will be $60,000. Then will either one of you be prepared to tell where the additional savings of $240,000 might be achieved?

Admiral Jelley. Yes. Do you have the two lists?

Commander Stelger. I have the Bureau's list there and with the committee's list also.

Mr. Donnelly. Would you want to go ahead with your list there?

Commander Stelger. All right. Under "Memphis barracks" the third item is elimination of the drying yard walls.

Mr. Donnelly. $16,000.

Commander Stelger. $11,644.

Mr. Davis. Where is the differential there between that and the figure of $16,000?

Admiral Jelley. They already had the footings in, but we told them to cover them up and stop.

Commander Stelger. Under the mess hall we eliminated the quarry tile window stools and substituted metal stools with clip fastenings. That is an item that is insignificant—$300. The training building item shows an elimination of all terrazzo and substituting dense cement floor finish. That was $7,000.

Mr. Donnelly. Could we go back to those "metal stools" at the windows? Do you mean by that, inside ledges? Is that what a stool is?

Commander Stelger. Yes.

Mr. Donnelly. Is there any reason why you would have to have metal in place of wood, for permanency?

Admiral Jelley. Metal is cheaper. They go on with a clip arrangement and slip right in and clip to the sash.

Commander Stelger. That is right.

Admiral Jelley. The labor cost in that is negligible. Wood would be more expensive.

Commander STELGER. You need carpenter fittings and all that for wood. These are factory made and just slipped in.

In the training building, again, the terrazzo floor is eliminated and we also eliminated all suspended ceilings and all incidental furring, and all plasterwork throughout the building. That was packaged together with the barracks lath and plaster item of $17,000. Then on all buildings I noted that they had a five-ply roof, which we would ordinarily apply over a wooden roof, but on a concrete roof slab we reduced it to four plies. There is a $1,971 saving.

We do not agree in principle with the colorless dampproofing that the specifications call for on the ornamental stone. We eliminated that. That was only a $75 item.

Admiral JELLEY. It was not a matter of price, but it is just unnecessary.

Commander STELGER. It should not be in there. It is poor from the standpoint of durability and you would have to work it over every 3 or 4 years anyway, and it would look worse over a period of years than having none.

On the stainless steel I was able to eliminate directly the covering of the refrigerator doors and the door jambs. That was $1,092. Beyond that on the stainless steel it was difficult at the time I was there to get the direct answer and I told them in principle what we had to obtain. I got a dispatch Saturday morning which spelled out in this yard-long dispatch the different details of the various items, where they would go down to what the Bureau's specifications would have called for.

They would use galvanized iron legs, galvanized iron skirting and shelves under the counters, with stainless steel limited to the counter tops and receptacles in all places where food would come in contact with it. We received that dispatch, and there is an estimated saving of $18,000 predicated on the preliminary information that they have been holding true. By that I mean to say that if the contractors have not fabricated any extent of this so as to cause an excess of cancellation expense. They did want to have authority to use stainless steel on the scullery counter tops. Therefore I sent this dispatch:

> Stainless steel counter tops in scullery approved. Carry out all other substitutions where costs result in advantage to the Government and where placing in service usably complete facility would not be delayed beyond date mess hall required.

That may bring in the full $18,000 or they may find further disadvantages where it might not be advisable from the business viewpoint to go all the way out on these substitutions.

Admiral JELLEY. Do you want me to discuss items that we would have eliminated if we had reviewed the specifications, and the things we considered to be on the extravagant side?

REINFORCED CONCRETE COVERING FOR WALKS

Mr. DONNELLY. I am sure that would be helpful. The chairman handed me a note inquiring about the reinforced concrete covering for the walks, and the iron supports.

Commander STEGLER. Yes. I would like to explain the function of those walks to begin with. The walks, as you note, are intended to serve between the barracks, and you will see these portions of the

walks for the purpose of forming traffic lanes for the people coming out of these buildings. They funnel down outside and go in those walks and eventually come into this walk leading into the mess hall. Had these walks not been provided, the corridors in these portions of the barracks would have had to be widened out. These men are taking their chow in three sittings there. The men are coming and going and they have to be able to pass.

Now, as to the matter of covered walks, this is a 10-foot-in-width stretch in through here. The men have to line up to get into the mess hall. They do not all fit inside as they are waiting to pick up their food at the cafeteria counters.

With the Weather Bureau climate data for Memphis we find we have 112 rainy days a year, on two of which we have snow, sleet, and hail; 51 are in the category of thunderstorm proportions. That is practically 1 out of 3 days on which those men are going to be rained on quite hard if they do not have a cover. It expedites getting the men in and out of the mess hall rather than having them wear foul-weather clothing back and forth, and after having their meal trying to find their coats and get on their way again.

As to the matter of concrete covering, that makes a permanent cover. It is one that will require practically no maintenance. I think the committee list mentioned iron columns. Those are actually pipes, that is, steel pipes. It is the simplest sort of a column that you might conceive.

Mr. DONNELLY. Admiral, do you want to go ahead now?

ITEMS OF OVERDESIGN CAUGHT TOO LATE FOR DELETION

Admiral JELLEY. If you would like, I would like to cover some items that were too late to be changed because the material had already been purchased and cancellation charges would have been excessive. We felt that the amount of limestone and greenstone facing was somewhat more than required for architectural treatment, and that the sizes of the pieces were unnecessarily large. Although all of the ornamental stone is estimated to cost about $7,000, I feel that for about $3,000 they could have provided enough architectural treatment to take away the drabness of the building and indicate entrances, and so forth.

They specified ceiling-hung toilet and shower enclosures where floor-mounted types would have been cheaper.

They provided acoustical tile by the adhesive method in areas where, while it was desirable, was not essential.

I would like to give you one interesting example: We felt that the corbeled brick walls at the ends of the wings added unnecessary expense, and your committee staff had mentioned the diagonal brickwork which also adds extra expense.

Mr. DONNELLY. That is the case in the arcades and the two wing walls.

Admiral JELLEY. Yes. When Commander Stelger went into that question with the contractor, the contractor said that their invariable custom in estimating brickwork was to look through the specifications for things like these corbeled ends or diagonal laying and add something to his brick estimate to cover it. He found only about one-tenth of 1 percent of what he considered special brickwork and, as a matter

of actual fact, did not add anything on account of the very small amount of special brickwork. So that is one point where theoretically the corbeling or special diagonal laying should have added expense, but in fact it did not.

The contractor indicated that it had been their experience. If there was not much special work, the bricklayers got interested in doing something a little out of the ordinary in brickwork and put that work up just as fast as straight brickwork. He would not consider it, unless it was something over—5 percent, did he say?

Commander STELGER. He didn't say, but it would have to be a significant amount before he would add an extra increment to his bid items.

Admiral JELLEY. I just mentioned that in some detail because theoretically that should add some expense, but practically it did not. Every now and then you will run into something like that.

Here is another point. In his asphalt tile he used marbelized shades instead of solid shades, which added something to the cost of the asphalt tile. The performance of the tile is not improved at all. It looks better if it is marbelized, but you have to pay extra for marbelized tile. We would have used the solid color rather than the marbleized color.

I would like to say the architect had a reason for doing all of this. Commander Stelger went into it point by point and the architect just did not do this frivolously. He had a reason in the back of his mind as to why he did it. We did not agree with the reason in every case. He used a zinc-coated wrought iron pipe for interior downspouts whereas we would have used steel or cast iron. He has concealed pipes in spaces where we would have accepted exposed piping.

We have already covered the stainless steel. We felt if it had been a Bureau-designed job we would not have had nearly as much.

The fire hose racks would have been cheaper. We would have used brass instead of nickel plate. We would have used painted steel racks instead of chromium-plated brass.

He specified wall fin radiators with copper pipe fins. We would have probably specified steel radiators, even though these copper type radiators are still available without priority.

One thing we questioned was an automatic outside temperature control system for the steam-heat supply. However, after discussing that with the local people and the architect, Commander Stelger decided it was justified, and that conditions at Memphis were such that it was a proper method of controlling the steam supply.

Here is another. The hoods over the steam table should have been steel instead of stainless steel.

We picked up the marble shelves at once, but it turns out that marble is quite cheap down there and it would be cheaper in the long run, instead of using stainless steel. You put soap on it and ordinary metal would require frequent replacing and repainting. We would probably have specified plate glass in most locations. In that part of Tennessee, though, marble is cheaper.

Mr. RILEY. Marble is cheaper than glass?

Admiral JELLEY. Yes. For this particular application. Is that right?

Commander STELGER. Yes, sir.

Admiral JELLEY. They had the damp-proofing specified for exterior walls below grade. We would have omitted that. He required both the hollow metal partitions in the cubicles and the hollow metal doors to be insulated. We would have required that they be filled.

There is no insulation value required in those two locations, but you do have to fill that air place between the two sheets of metal. As far as we were concerned, they could have used a Celotex, or the cheapest possible thing they could buy, rather than having insulating material.

He specified wall-hung water closets instead of floor-mounted ones. Although there seems to be a tendency toward wall-hung water closets to permit cleaning underneath them, we have not used that too much. I think in general that covers the items that we would probably have combed out of the specifications.

USE OF STAINLESS STEEL MINIMIZED

Commander STELGER. One thing I want to add to it, if you do not mind, is that of stainless steel. Last October the resident officer had directed the contractor to provide the chromium-type stainless steel, eliminating the nickel. The nickel type is critical and chromium is not critical.

Mr. RILEY. Which was used here?

Commander STELGER. Chromium.

Admiral JELLEY. The noncritical type.

Commander STELGER. Yes, sir. The resident officer picked that up early in the job.

Mr. DONNELLY. It is still more expensive than that substitute you named.

Commander STELGER. It is more expensive, but from the Bureau's viewpoint it is only the tops, where you have that constant wear and the contact with food it presents a sanitary surface, there it is important and should be used. When asking the people as to why they would specify all this stainless steel, they say, "Why, you talk to any of the manufacturers and you will find they will offer their quality line, which is all stainless steel, and they have another line which is stainless steel tops, but galvanized steel skirting and frame below." If you go into better restaurants or hotels you will find all stainless steel in their kitchens, right on down to the floor. On the other hand, the Bureau's practice is that we do not use the stainless steel all the way down, so it is cheaper.

Admiral JELLEY. We feel it is necessary for sanitation and to reduce maintenance, to have it on the tops, where it is actually in contact. We consider the rest of it ornamental.

USE OF CONCRETE COPING

Mr. DONNELLY. How about this concrete coping around the top of the training building instead of an ordinary terra cotta cap, just as you ordinarily see on office buildings and apartment houses?

Commander STELGER. That provides a weather shade, both from sun and weather beating on the walls.

Admiral JELLEY. No. He was talking about the coping on the wall.

Commander STELGER. Isn't that the overhang? I am sorry. The terra cotta coping. They are used in certain buildings, we have found maintenance problems with them in cracking and leakage. The Public Buildings Administration advises us that they are swinging very definitely away from them. I would have gone into it more completely, except the coping stones are lying on the job now.

Mr. DONNELLY. Would those coping stones have been deleted if you combed the specifications?

Commander STELGER. I do not believe we would have used them, but I dropped it when I saw them on the job. It would have been no advantage to the Government.

Mr. DONNELLY. If you had combed the plans and specifications and arrived at a list such as you just read off, would your criterion have been austerity, or have you been reading off what you would have deleted from just the normal peacetime standards?

Admiral JELLEY. No. I think if it had been normal peacetime standards we would have probably let the stainless steel get by, for example. There were quite a few items I mentioned that I think would have been permitted 18 months ago.

ALUMINUM TRIM ON BLACKBOARDS

Mr. DONNELLY. How about the blackboards in the classrooms with the extruded aluminum framing and troughs for the chalk and erasers?

Commander STELGER. That is becoming a standard item these days in lieu of the hardwood frame schools used to use around blackboards and bulletin boards. They are extruded shapes and stock items. The architect advises me they are using them generally throughout their schools that they are designing now, and that they find they are no more expensive and that they are cheaper in the long run and require practically no maintenance.

Admiral JELLEY. It is rather difficult to get the hardwood these days anyway.

Commander STELGER. That is true.

Mr. DONNELLY. Is aluminum a critical material?

Commander STELGER. This is a B product, in which you can buy them out of the vendor's warehouse without a priority.

Mr. DAVIS. Does that mean it is made up of scrap and not top-grade aluminum?

Commander STELGER. No. It is part of the NPA system in which manufacturers, in order that they can remain in business, are allowed to draw a certain amount of materials for their normal production. It keeps their wheels moving.

Admiral JELLEY. They are allowed a certain percentage of their pre-Korea consumption. That is why you can still buy aluminum storm windows and aluminum screens, and that kind of product, because the NPA instead of forbidding the use of aluminum entirely in a lot of cases, has said, "You will get half as much as you have gotten pre-Korea," and so on. You can still find a lot of manufactured copper and aluminum products on the market.

HARDWARE

Mr. DONNELLY. How about the hardware items? They have wrought, extruded, or cast brass. Could there not be a cheaper and equally durable substitute for that hardware?

Commander STELGER. The hardware that came with this sash is the standard hardware that goes with this grade of sash in the project windows. It would have called for a special order actually to get a different kind of latch.

Mr. DONNELLY. In other words, having determined on the windows you automatically had to take what fitted them?

Commander STELGER. As part of the package.

Admiral JELLEY. Yes. It came with it. I asked another question, in talking to Commander Stelger about his visit there, concerning the plumbing fixtures. They considered black iron, the type we used to get during the war, and he said that they are not even manufacturing those now and will not manufacture them unless they stop getting the regular plumbers' quotas of bronze and brass. I thought black-iron types were immediately available in stock.

ICE-WATER SYSTEMS

Mr. DONNELLY. How about the three complete ice-water systems, including the refrigerating machine and insulated storage tank, and so forth?

Commander STELGER. I failed to find three systems. There are two systems that I could find. One is to serve the mess hall and one is to serve the training building. The barracks have individual electric water coolers at scattered locations throughout the barracks. The reason for the two central systems is the result of the architect's considered opinion that where you have these peak demands for cold water, such as all the men going through the chow line and wanting to get their water, or the men between their classes in a matter of minutes all getting their drinks, it is more economical to have a central supply with a storage tank, just as it is in your own home, where you have your electric or gas hot-water heater and you do not have a different heater there to furnish all your different needs for hot water. It works by the same reasoning that this central system is a better system to use.

Mr. DONNELLY. How does it compare in expense for the training building, as an example, as against an electric cooler?

Commander STELGER. I do not think you would have the capacity, if you went into enough individual coolers, for the same price as you can get the central system for. In other words, in individual coolers where they have very little storage within themselves you would have to have a large number of them in the larger sizes that they produce. I think the cost of those together would go beyond the cost of the central unit. Further, the central unit is a much better machine to maintain. It is a heavier machine and will endure over a period of years much better than the small units.

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AIR CONDITIONING

Mr. DONNELLY. The training building is to be air-conditioned throughout; is it not, Commander?

Commander STELGER. Not throughout. The classrooms and two small offices are air-conditioned.

Mr. DONNELLY. The ceiling height provided for the classrooms we have noticed is 11 feet 11 inches. As long as there is air-conditioning, is that ceiling height necessary?

Commander STELGER. Yes; it still is. It is a take-off from board of education practices on the relative ceiling heights so as to produce enough cubic-foot air content for a person in the room, and also high enough to permit windows of a size which will give you the number of square feet of natural daylight necessary further back into the room. It is just good practice in classroom construction.

ACOUSTICAL TILE

Mr. DONNELLY. The admiral mentioned acoustical tile. We had a note that acoustial tile ceilings were provided in the noncommissioned officers' lounge. The admiral mentions the expense of an adhesive type of acoustical tile, but is there any reason why the acoustical tile cannot be altogether deleted?

Commander STELGER. Yes. The reason is this: The NCO's are, generally speaking, the instructors, or people taking the most advanced training. They have no other place to study. The building, as you will note, is located in a quadrangle. One side is a country road and the other three sides have heavily traveled station roads. It also is under the flight pattern of the flying field. It is merely to give them a quieter place to concentrate on their studies and homework.

Mr. RILEY. Admiral, if you will furnish the information requested on the architect's estimates, and the information Mr. Davis asked for on Denver, for the record, we would appreciate it.

Unless there is something else you have to say, I do not know that we have any further questions.

Admiral JELLEY. Mr. Donnelly requested a study on our part to see if we could reduce the over-all space allowance to 120 square feet per man. I have such a study I would like to present to the committee. I also have a formal closing statement I would like to present. They are somewhat interrelated. Really the closing statement should come before this, but I think it would be better to give you this study on area and barracks first and then read my closing statement.

Mr. RILEY. I think that would be of great interest to the committee.

BARRACKS—STUDY ON SQUARE-FOOT AREAS

Admiral JELLEY. I am submitting this in the form of a letter to the counsel, Mr. Donnelly. It reads as follows:

The Subcommittee on Military Construction requested that the Bureau of Yards and Docks submit revised criteria for an enlisted men's barracks in conformance with the committee's austerity program.

Attached are cost data, square-foot areas and a sketch plan of a barracks, "interim type," which it is believed will meet the Navy's needs and comply with the committee's desire to cut costs.

This interim-type barracks differs from the Bureau's design criteria in the following respects:

(*a*) The interim-type barracks is three stories high instead of two which will result in a considerable saving in cost of foundations, roof construction, service lines, roads, walks, and ground area used.

(*b*) The total capacity of the interim type is 172 men (144 enlisted and 28 petty officers) as compared with a capacity of 100 men (88 enlisted and 12 petty officers) in the Bureau's design criteria.

(*c*) Dormitory capacities have been increased by allowing 72 square feet per man on the basis of the entire dormitory area rather than on a bay basis.

(*d*) The capacity of the interim-type barracks is based on single bunking but will permit an increase of 48 percent in an emergency by double bunking.

(*e*) The gross floor area (using outside dimensions) have been reduced from 143.64 square feet to 125 square feet per man. The usable area, omitting walls, partitions, pipe spaces and service room in basement has been reduced from 130 square feet to 113.4 square feet per man.

(*f*) The estimated cost of the interim-type barracks is $1,422 per man as compared with $1,910 per man for the design-criteria barracks. This is a decrease of 25.5 percent in estimated cost per man.

Now, I also have the form that we used before as to the number of square feet per man for personal storage space, other storage space, corridors, laundry, et cetera, and also the various estimates that would provide for the other types of barracks and, in addition, a plan showing how the barracks would look. I might say that those two changes resulted from two things: First, the use of three stories, which came about as a result of my concern, as to why the Air Force barracks were cheaper per man than the Navy barracks, although the Air Force was putting its men in rooms. After studying that we found out that basically it was because we were building two small two-story buildings whereas they were building one larger three-story building. Why the Navy has not built three-story barracks before I do not know. I think I have built as many barracks as any other civil engineer officer in the Navy on duty now, and I have never built a three-story barracks. I think historically we have always built them two stories in height.

We have made some exceptions, though. We have approved some exceptions recently where ground space has been limited, and they did not have room enough to build two-story structures.

There are some disadvantages in three stories in getting the people out in case of fire, or troubles like that. That is one disadvantage. However, I think a three-story barracks is perfectly acceptable, and I think from now on the Navy will be for three stories. It will result in a definite saving in cost.

For instance, in this Memphis barracks we could have stopped right here and have had two groups of three wings three stories high instead of two groups of five wings. That is how we get most of that 25-percent decrease in cost per man. The other reduction comes from putting a few more men in the building, which I think is directly due to the committee's work.

(NOTE.—The complete data prepared by the admiral is printed in the appendix commencing at pp. 201 and 205.)

SAVINGS BROUGHT ABOUT BY THREE-STORY CONSTRUCTION

Mr. RILEY. Let me ask you a question right there. Suppose you had built these buildings three stories high instead of two stores. Can you give us some idea of the savings that would have accrued from

that? Can you give us an estimate of the savings we would have made?

Admiral JELLEY. I think it would have been in the neighborhood of three-quarters of a million dollars. That is about 20 percent of $3,500,000 that were spent for the barracks.

Mr. RILEY. That is quite an item, is it not?

Admiral JELLEY. It is quite an item and, as I said, I just do not know why we did not do this 20 years ago or 40 years ago.

Mr. DAVIS. Would your request for 1953 construction funds be based on this new criteria which you have presented to us here today?

Admiral JELLEY. It will be. I have covered that in my closing statement. Not only that, but much of the 1952 program. This is just about the only barracks project that is under way at present in the 1952 program. Most of the others you had on your list were still in the planning stage, and I had already held up most of those before these hearings until we investigated three-story buildings. So we will be able to take advantage of it in the 1952 program and the 1953 program.

Mr. DAVIS. I do not want to anticipate your closing statement, but will this committee be furnished with a statement at the close of this fiscal year informing Congress as to the savings that will be made in this fiscal year as a result of the alteration of design you have just told us about?

Admiral JELLEY. We can do that. Yes.

Mr. RILEY. I think that would be very valuable information.

DISPOSITION OF MONEY SAVED—IT IS NOT RETURNED TO THE TREASURY

Mr. DAVIS. That will be reflected in a return of money to the Treasury, I would assume?

Admiral JELLEY. That would depend on the Navy policy adopted, covering this type of savings, as to whether to return the money to the Treasury or whether to ask for a reprograming, or discuss the matter with the committee before setting up a formal policy.

Would you say that was more or less in line with O. B. & R.'s general policy?

Mr. BOSS. Yes; I think it would. The present procedure is that such savings or cost overruns are cleared through the Office of the Secretary of Defense and through the Bureau of the Budget. If there are any savings, the apportionment is reduced and the difference is placed in reserve. All reprograming will have to be cleared by the committee through the Office of the Secretary of Defense.

Mr. DAVIS. Mr. Boss, when you speak of it being put in the reserve, does that mean it is put into a fund which is available for reallotment at the discretion of the Secretary of Defense?

Mr. BOSS. No, sir. Not the Secretary of Defense. We have to get permission from the Office of the Secretary of Defense to present reprogramed project items to the committee. You see, we are not allowed to spend any 1952 public works money except for the items as justified to the committee. That is what the present directives relate to.

Mr. DAVIS. What is the difference between putting that money in the reserve and asking the committee to reappropriate it, and on the

other hand returning that money to the Treasury and submitting a new request to the Appropriations Committee?

Mr. Boss. Well, as I understand it, Mr. Davis, at the present time our available appropriated funds are indicated on an apportionment schedule. Since this is a continuing appropriation, the funds are apportioned throughout the year for the first, second, third, and fourth quarters, for those projects wherein contracts are to be awarded and funds are required for obligation. Funds appropriated but not apportioned immediately for obligation purposes, are carried as a reserve. This amount in reserve may be for projects where plans and specifications are not ready, or where savings have been accomplished. The legislative authorization usually allows for a 5-percent or 10-percent variation from the specific amount authorized for a given project. The cost of individual items within a project may vary as long as the total project cost is within the authorized limitations. The office of the Secretary of Defense has allowed such item variation up to 20 percent where there is no change in scope as justified to the committee and the total cost of the project remains within the limitations prescribed. Accordingly, savings in certain projects, or items of projects, may be used for increases in other items or for cost overruns of projects up to the 5- or 10-percent increase set forth in the project authorization. Any change in excess of the 20 percent for portions of the project or any extensive variation from the authorization involving the construction of items differing from those justified must be cleared by the committee. In other words, we must obtain the committee's permission.

Mr. Davis. And that permission is in what form?

Mr. Boss. That is on another reapportionment schedule backed up by justification. When the request to reprogram is approved by the Office of the Secretary of Defense a similar request is submitted to the committee for their concurrence.

Mr. Davis. What I am trying to get at is this: Does that simply mean you are advising the Appropriations Committees of the House and Senate, or does that mean that you then come in and seek the reappropriation of that money just as if it were new money?

Mr. Boss. Neither. I would say that it is seeking the concurrence of the committee to achieve the same ultimate purpose for which the funds were justified but where the costs of items have increased or where slight variations in the original items are required.

Mr. Riley. Unless the committee approved it, I do not believe you could use it. Is that right?

Mr. Boss. That is right.

Admiral Jelley. I think it is a question of the way the bill is written, whether the committee can approve it informally by letter from Chairman Mahon, say, or whether it has to be an actual reappropriation. Some of our people think it has to be a matter of reappropriation. Last year I believe wanted to use second supplemental funds. I think we had a letter from Mr. Mahon saying that as a result of hearings the committee would have no objection to our spending some of the funds for advanced planning. We do have authority now in the act to transfer between projects at a station up to 10 percent. Is that right?

Mr. Boss. Items within projects up to 20 percent, and not to exceed the total for the project at that station.

Admiral JELLEY. For example, take the Albany, Ga., project again. The warehouses cost about 16 percent less than we estimated. If the administration building cost 16 percent more than we estimated, we could notify the Secretary of Defense and the Bureau of the Budget and get permission to exchange those funds. But if an administration building at Norfolk cost 16 percent more, then we could not transfer the Albany, Ga., funds up to Norfolk without coming to the committee and saying that this project which we justified to you, for whatever the reason was, cost more than we had justified, and we want to take some of the unexpended money at Albany and use it at Norfolk. There we would have to come to the committee and it is a question of interpretation as to whether the committee could write a letter and say, "It is all right with us," or whether you would have to change the law. I would personally think you would have to change the law, but some people think it could be done on a letter basis.

Mr. DAVIS. Admiral, it appears that the question of the reallotment of funds and the disposal of funds which are unused on particular projects, is not as clear as it might be. Yet I can understand that that is not a problem which is within your particular cognizance.

I would like to suggest, Mr. Chairman, that our counsel, Mr. Donnelly, be instructed to address a letter in behalf of this subcommittee to the appropriate authorities in the Department of the Navy and the Office of the Secretary of Defense requesting from them an official statement as to the disposal of such funds. In order that the committee may have an opportunity to observe the application of that policy, I would suggest that Mr. Donnelly be instructed to request specific information as to the disposal of the funds saved in the warehouse program at Albany, Ga.

Mr. RILEY. As I understand it, Mr. Davis, you would restrict your request to construction projects only?

Mr. DAVIS. That is what comes under the scope of this subcommittee at the present, and that is as far as we can go.

Mr. RILEY. Yes; our authority only extends to construction.

Without objection, we will ask the counsel then to request that information.

Mr. DAVIS. I further suggest, Mr. Chairman, that the letters of Mr. Donnelly and the responses thereto be made a part of the record of this hearing.

Mr. RILEY. Without objection, that will be done.

(The documents referred to are as follows:)

DEPARTMENT OF THE NAVY,
BUREAU OF YARDS AND DOCKS,
Washington 25, D. C., March 31, 1952.

JOHN J. DONNELLY, Esq.,
Counsel, Subcommittee on Military Construction,
Committee on Appropriations, House of Representatives,
Washington, D. C.

MY DEAR MR. DONNELLY: In response to your request, I would like to clarify my statement made to you relative to the apparent $2,000,000 saving on the bids for the 10 warehouses at the Marine Corps Depot of Supplies at Albany, Ga.

The project for this supply facility as presented to Congress was estimated at approximately $65,000,000 for which funds in the amount of $23,687,200 were appropriated by Public Law 254, Eighty-second Congress, for the first usable increment of construction. The item for warehouses was originally estimated at $13,700,000 which included necessary rail sidings, adjacent paving, etc. These latter items, in order to achieve the most economical construction, are being in-

cluded as part of the over-all large railroad construction and road-paving contracts. Deducting an estimated cost of $1,000,000 for the sidings and paving included in the $13,700,000 estimate, there would be left $12,700,000 for the warehouses themselves. The cost, by bid, of the 10 warehouses including anticipated change orders is $10,878,000 or approximately $2,000,000 under our originally estimated cost of $12,700,000.

It is desired to point out that funds in the amount of $23,687,200 were appropriated to go as far as possible toward the construction of the ultimate $65,000,000 depot.

The following is quoted from the testimony by Gen. W. P. T. Hill, Quartermaster General of the Marine Corps, presented before the Committee on Armed Services, United States Senate, Eighty-second Congress, first session, on H. R. 4914:

"The Albany depot was originally submitted in, and our justification book shows, the language of advance planning. We now have the advantage of the studies made by the architects, engineers, and ourselves. We have prepared a new justification sheet, detailed under the 'Basis of estimate' the items which we actually propose to construct. These items are in the order of need and we propose to utilize any authorization and appropriation to build from the top of the list down. We feel it particularly important, at this time, to request that the committee take cognizance of this detailed list in order that we may feel that it is the intent of the Congress that we may build from this list rather than possibly being restricted to the earlier list which did not reflect our additional planning."

In view of this, the apparent underrun of $2,000,000 on the warehouse portion of the project will be used to construct that much more of the ultimate plant, and thus provide a more usable increment than was originally anticipated. For this reason, on this particular project, there would be no funds available for return.

With kindest regards,

Sincerely yours,

J. F. JELLEY,
Rear Admiral, CEC, USN, Chief of Bureau.

FURTHER COMMENTS ON THREE-STORY BARRACKS

Admiral JELLEY. I want to say that the major part of the savings is due to going to three stories instead of two. However, also a part is due to putting a few more men in the dormitories, which increases the capacity of the barracks and gives a square footage in corridors, stairways, and other accessory construction which is spread out among more men. That was directly a result of the committee's inquiries on the amount of square feet we were allowing for other than dormitory space.

Mr. RILEY. On a three-story dormitory there is no question of your putting in adequate fire escapes, is there?

Admiral JELLEY. No; we have fire escapes there already on the two stories; that is, outside stairways on the ends of the two-story buildings. We will extend that another story.

Mr. RILEY. I understand you would like to make a closing statement, Admiral?

CLOSING STATEMENT

Admiral JELLEY. Yes, I would like to make a formal closing statement.

I would like to thank the chairman, the members of this committee, and your counsel for the consideration you have shown in these hearings. Your questions and comments have been thoughtful and discerning, and the hearings have been beneficial to the Navy shore construction program.

I would like to reiterate that we are attempting to provide substantial construction within the limits of Admiral Sherman's directive

on simplifying all construction. Our discussions during these hearings about the construction at Memphis have convinced me that our present system of spot-checking plans and specifications at the Bureau level needs overhauling. I have directed the immediate establishment of a team of qualified technical personnel from the Bureau that will visit naval activities on a systematic schedule to review plans and specifications in detail; to determine adequacy of Navy design and inspection forces; to review performance of architect-engineers; and, in general, to insure that directives from the Bureau and District offices are being vigorously followed.

I might say that the first group will leave for Oceana, Va., next week. They will do very much like Commander Stelger and his assistants did at Memphis.

We are making a complete review of our standards for construction of barracks. This will take time, since we must confer with other bureaus and offices of the Navy Department, and study the experience of the other services. We want our revised criteria to be more specific as to areas allowed for purposes other than dormitories, and more complete as to the materials of construction that may be utilized. Such a study takes time, and I do not consider it feasible to delay our construction program while it is being made. I informed you earlier that for some months we have been reviewing the costs of barracks and that I held up our prototype design of barracks for naval air stations in order to study the possibility of using three-story buildings.

I am able to inform you officially that I have the approval of the Deputy Chief of Naval Operations for Logistics, Admiral Low, to make two radical modifications immediately in our present barracks criteria to apply to all barracks not yet under contract. First, we will go to a three-story building instead of our present two-story building. Second, we will reduce the spacing of cubicles to permit the capacity of enlisted men's dormitories to be increased from 44 to 48, and noncommissioned officers' dormitories from 12 to 14. Our standard barracks will be changed from a two-story, 100-man capacity building to a three-story, 172-man capacity building. The gross area per man is thus reduced from 143 square feet to 125 square feet.

I would like to emphasize that these reductions will affect much of the 1952 program as well as the 1953 program. We will accept a delay while plans are being revised, but because of the nature of the two changes we are making, revisions in plans will not be excessive and delays should not exceed 45 days.

I would like to repeat that this is an interim measure only and that I hope we can make further reductions upon completion of the intensive study into barracks requirements.

In conclusion, I would like to say that although exception has been taken to only a small part of our large construction program that was inspected by your staff, we will not be complacent—we will endeavor to correct any short-comings on our part, and we will continue to be cost-conscious in the execution of the Navy's shore-construction program.

Mr. RILEY. Admiral, we of the committee want to thank you and your assistants for the splendid cooperation that you have given us in making this study; for your frankness and promptness in furnishing us with information that we have requested; your open-mindedness

in respect to the entire study; and your amenability to the suggestions which have been offered. I certainly think that out of these conferences and the further studies that will be made there will come results which will be most beneficial both to the service and to the Congress.

Admiral JELLEY. Thank you, Mr. Chairman.

Mr. DAVIS. If I may speak one word for the minority of one, I would like to make just two comments. One is that I am very favorably impressed with the quick response which has been made to the suggestions; and, secondly, that the suggestions themselves reflect not nearly so much any of the thoughts of the members of the subcommittee as they do reflect the hard and competent work that has been done by the investigative staff of the committee and the interpretation of those investigations which have been made by Mr. Donnelly, who has borne the major burden of the hearings that we have just completed.

Mr. RILEY. Mr. Donnelly, we should be glad to have any statement that you would care to make.

Mr. DONNELLY. Well, I am gratified to see that what we have sought to do is bearing fruit here in the admiral's very candid statement, in which he accepts the premise that his Bureau might make some improvements in certain areas. I am very much gratified that that has come about. It is quite a departure from the experiences which we may have had with respect to other services at other times, and I hope it will set a pattern for the Air Force and the Army when they come over.

Thank you, Mr. Chairman.

Mr. RILEY. If there is nothing further, we will stand adjourned.

(The following was submitted subsequently by Admiral Jelley:)

ESTIMATED SAVINGS RESULTING FROM VISITS OF BUREAU OF DOCKS INSPECTION TEAMS TO VARIOUS NAVAL DISTRICTS

DEPARTMENT OF THE NAVY,
BUREAU OF YARDS AND DOCKS,
Washington 25, D. C., May 26, 1952.

JOHN J. DONNELLY, Esq.
Counsel, Subcommittee on Military Construction,
Committee on Appropriations,
House of Representatives, Washington 25, D. C.

DEAR MR. DONNELLY: In accordance with the request of the subcommittee, I am transmitting the estimated savings resulting from visits of inspection teams of Bureau of Yards and Docks personnel to various naval districts.

From March 10 through May 23, visits have been made to Albany, Ga., in the Sixth Naval District, and to the district public works offices in the Eleventh, Twelfth, Ninth, and Fifth Naval Districts.

In all, a total of approximately 109 drawings of approximately 1,400 pages of specifications have been reviewed. The estimated cost of construction of the projects reviewed was $61,305,000, on which the estimated savings by elimination of nonessentials was $1,234,000, or 2 percent.

Besides the drawings reviewed by the special groups, the districts are making reviews of other drawings and this will result in additional savings. I have asked the district public works officers to furnish estimates of savings made as a result of their own reviews in line with the "Austerity" program.

With kindest regards,

Sincerely yours

J. F. JELLEY,
Rear Admiral, CEC, USN, Chief of Bureau.

APPENDIX

Navy Design Criteria for Barracks, 1948

The documents, reflecting the Navy's 1948 design criteria for barracks, referred to on page 27 of the hearings, are as follows:

Department of the Navy,
Bureau of Yards and Docks,
Washington 25, D. C., November 5, 1951.

Mr. Frederic D. Vechery,
Chief, Investigative Staff, House of Representatives. Committee on Appropriations, Old House Office Building, Washington 25, D. C.

Dear Mr. Vechery: In response to oral requests of members of your staff, there is transmitted herewith data on construction standards criteria as promulgated by the Munitions Board.

Also, additional information has been secured with regard to the barracks and mess hall, naval communication station, Snohomish County, Wash. The cost of these facilities is $239,000. The galley and mess hall facilities are the minimum that can be provided, but are capable of serving an additional dormitory wing for 38 men. The dormitory, not including 5 separate bedrooms, accommodates 30 men on a floor area of 2,240 square feet, or 74.66 square feet per man. The building as now constructed accommodates 38 men single-bunked.

With kindest regards,
Sincerely yours,

A. D. Hunter,
Deputy Chief of Bureau.

Navy Department,
Washington 25, D. C., December 19, 1950.

From: Secretary of the Navy.
To: Distribution list.
Subject: Criteria for permanent, semipermanent, and temporary military command construction.
Enclosure: (1) Construction standards criteria.

1. Enclosure (1) sets forth the criteria to be used for permanent, semipermanent and temporary construction; space allowances for troop housing; and principles of economy of man-hours, materials, equipment, and transportation.

2. It is directed that these established criteria be incorporated in plans for, and construction of, all military installations and facilities.

John T. Koehler,
Assistant Secretary of the Navy.

CONSTRUCTION STANDARDS

Permanent construction

Permanent construction, inclusive of family housing, will be limited to the requirements of the forces in being on June 30, 1950, and/or to those locations where the need is demonstrably permanent.

Semipermanent construction

Semipermanent construction (of an economic life of 10 to 20 years) will be used in locations where, although the need is not demonstrably permanent, the facilities to be provided will become a part of the over-all establishment even though subsequently to be maintained on an inactive basis.

Temporary construction

Temporary construction (of an economic life of 5 years) will be provided in locations where the requirements are clearly temporary and the subsequent

partial or entire removal of the installation will not adversely affect the facilities requirements for the military forces to be maintained.

Space allowances

Space allowances for troop housing will be—

(*a*) For permanent and semipermanent construction (10 to 20 year life), 72 square feet per man, exclusive of stairways, toilets, furnace rooms, and other common areas.

(*b*) For temporary construction, 60 square feet per man, exclusive of stairways, toilets, furnace rooms, and other common areas.

Principle of economy

The limited time in which to provide required installations and facilities and the absolute necessity for the conservation of construction man-hours, materials, and transportation require that each of the three military departments have available for immediate use, plans for permanent, semipermanent, and temporary military standard facilities. Temporary facilities shall provide installations requiring for their erection, the minimum expenditure of materials, equipment, man-hours, and transportation.

Items and refinements which normally should be prohibited in temporary military installations and facilities include, but are not limited to, the following:

(*a*) Fencing, except minimum requirements both as to quality and quantity, required for security, economic or safety purposes.

(*b*) Storm sewers, downspouts, and gutters.

(*c*) Clearing of trees and brush beyond areas necessary for actual structures, operations, or safety.

(*d*) Cast-iron pipe, when pipe of a less critical material would meet the requirements and is available.

(*e*) Installation of nonessential voltage regulators.

(*f*) Connection of remote structures to sewerage systems where a septic tank would suffice.

(*g*) Use of a "main-line" construction for railroad sidings and spurs.

(*h*) Construction of incinerators where "sanitary fill" or other more economical disposal can be employed.

(*i*) Construction of utility facilities where purchase of such services is economically feasible.

(*j*) Agreements for sale of services which obligate the Government to continue these services after the emergency military facility has been inactivated.

(*k*) Drill halls or similar structures for training and recreation.

(*l*) Roadway curbs and gutters.

(*m*) Central heating plants, except where they are the more economical or are required for operational needs or climatic conditions.

(*n*) Excessive electrical distribution capacity, hardware, and fixtures.

MUNITIONS BOARD,
Washington 25, D. C., November 15, 1950.

Memorandum for the Secretary of the Army, through the Under Secretary of the Army.

Memorandum for the Secretary of the Navy, through the Assistant Secretary of the Navy.

Memorandum for the Secretary of the Air Force, through the Assistant Secretary of the Air Force.

Subject: Criteria for permanent, semipermanent, and temporary military command construction.

1. On November 2, the Munitions Board approved the construction standards as outlined in enclosure 1.

2. Enclosure 1 provides (1) the criteria for permanent, semipermanent, and temporary construction; (2) troop housing space; and (3) principles of economy of man-hours, materials, equipment, and transportation.

3. It is requested that the military departments implement the established criteria, enclosure 1, incorporating the same in plans for, and construction of, all military installations and facilities.

4. It is further requested that the Munitions Board be provided on or before December 1, 1950, copies of all pertinent directives of such implementation.

For the Chairman:

JERRY V. MATEJKA,
Major General, U. S. A.
Acting Director of Production Management.

One Enclosure: Construction standards. (Enclosure 1 of this letter and Enclosure (1) of SecNav's letter of Dec. 19, 1950, are identical).

NAVY DEPARTMENT,
BUREAU OF YARDS AND DOCKS,
Washington, D. C., January 8, 1948.

CIRCULAR LETTER

From: Chief of the Bureau of Yards and Docks.
To: Addressees indicated below.
Subject: Design criteria, promulgation of.
Enclosures: (A) Design criteria for enlisted men's barracks, Navy and Marines (HW).
(B) Definitive drawings for enlisted men's barracks, Navy and Marines (Y. and D. drawings Nos. 430360, 454102, and 454103) (HW).

1. In order to establish uniform design criteria relating to the engineering and architectural work for the Navy, the Bureau of Yards and Docks is preparing design criteria, including definitive drawings, for the use of those engaged in the planning and design of construction under cognizance of this Bureau.

2. These criteria, in addition to incorporating existing Bureau practice, include new criteria developed in coordination with the various interested bureaus of the Department of the Navy and with the Corps of Engineers of the Department of the Army, in order to establish comparable facilities and uniform design standards wherever possible.

3. The purpose of these design criteria is to assist all who are engaged in the planning and design of Navy construction whether in the Bureau of Yards and Docks, in the public works offices, or by outside architects and engineers under contract with the Bureau of Yards and Docks. These criteria are not intended to restrict initiative nor to minimize the need for the training, experience, and ability on which the principal reliance for successful accomplishment must always rest, but to serve as a guide as to basic requirements for design.

4. These criteria include in brief form some information already contained in other Bureau of Yards and Docks publications. Where these criteria differ from those contained in predated publications, the requirements of these criteria shall govern.

5. These criteria will be issued from time to time as they are developed and will be forwarded as enclosures to circular letters. It is recommended that these criteria be bound together for ready reference. Additional copies will be available upon request to the Chief of the Bureau of Yards and Docks. Eventually the compilation of these criteria will be issued in printed form together with a booklet of definitive drawings.

6. Joint Army-Navy standards as prepared under the cognizance of the Army-Navy Joint Specifications Board shall be mandatory as issued.

J. F. JELLEY,
Deputy and Assistant Chief of Bureau.

Distribution: Standard Navy 7yy, 7zz., NavDocks A, C, and D.

DESIGN CRITERIA FOR ENLISTED MEN'S BARRACKS, NAVY AND MARINES

DEPARTMENT OF THE NAVY, BUREAU OF YARDS AND DOCKS, JANUARY 1948

1. Unit type and capacity

Barracks shall be designed in individual units of 100 men each, shall be two stories, and interconnected by covered passageways at the lower floor. Such an arrangement permits the adaptation of the barracks units to varying types of terrain and lends itself to building by increments as well as to easy expansion.

2. Accommodations

Each barracks unit shall contain two 44-bed dormitories for enlisted men and a 12-bed dormitory for petty officers, all bunked singly. Dormitories shall be two bunks wide, the long sides of the bunks being perpendicular to the long axis of the dormitory. It is recommended that bunks be arranged in cubicles, four bunks each, with dividing partitions between groups. If cubicles are not used, bunks shall be spaced not less than 6 feet on centers. Space for two standard lockers shall be provided for each enlisted man. Toilet facilities shall adjoin the dormitory. Petty officers shall be quartered within the barracks unit and shall be provided with separate dormitory, lounge, and toilet. Each dormitory shall have at least two exits, located at opposite ends of the room. Provision shall be made for an enlisted men's day room, a master-at-arms office, bag storage rooms, linen

rooms, scrub decks, and cleaning gear rooms. Halls, stairways, and mechanical service rooms shall be provided as required. The 100-man barracks unit shall not contain messing facilities. Messing shall be provided in a central subsistence building connected to the barracks units by covered passageways. Barracks for a complement of less than 100 men may have messing facilities within the barracks unit.

3. Space allowances

Design shall be based on the following space allowances:

For single bunking:

Enlisted men's dormitories	square feet per man	70
Do	cubic feet per man	750
Petty officers' dormitories	square feet per man	90
Do	cubic feet per man	950
Enlisted men's day room	square feet per man	12
Petty officers' day room	do	25

For double bunking: If barracks occupancy must be increased in an emergency by double bunking, the number of beds in each dormitory that may be made into double bunks shall be determined by the following minimum space allowances: 50 square feet per man; 450 cubic feet per man.

4. Plumbing allowances

Design shall be based on the following plumbing allowances:

The ratio of plumbing fixtures to the number of men for single bunking shall be as follows:

Fixtures, single bunking

Lavatories, 1 per 5 men
Water closets, 1 per 10 men
Showers, 1 per 15 men
Urinals, 1 per 20 men
Scrub decks, one-half lineal foot per man

In order to provide for double bunking in an emergency, space should be provided for additional fixtures to meet the following minimum ratios:

Fixtures, double bunking

Lavatories, 1 per 7 men
Water closets, 1 per 12 men
Showers, 1 per 15 men
Urinals, 1 per 20 men
Scrub decks, one-third lineal foot per man
1 cleaning-gear room with slop sink per floor
1 drinking fountain per floor

Shower rooms shall be provided with dividing partitions between shower heads, raised at least 1 foot above the floor, to permit a common floor drain at wall. Toilet stalls shall be constructed without doors.

5. Definitive drawings

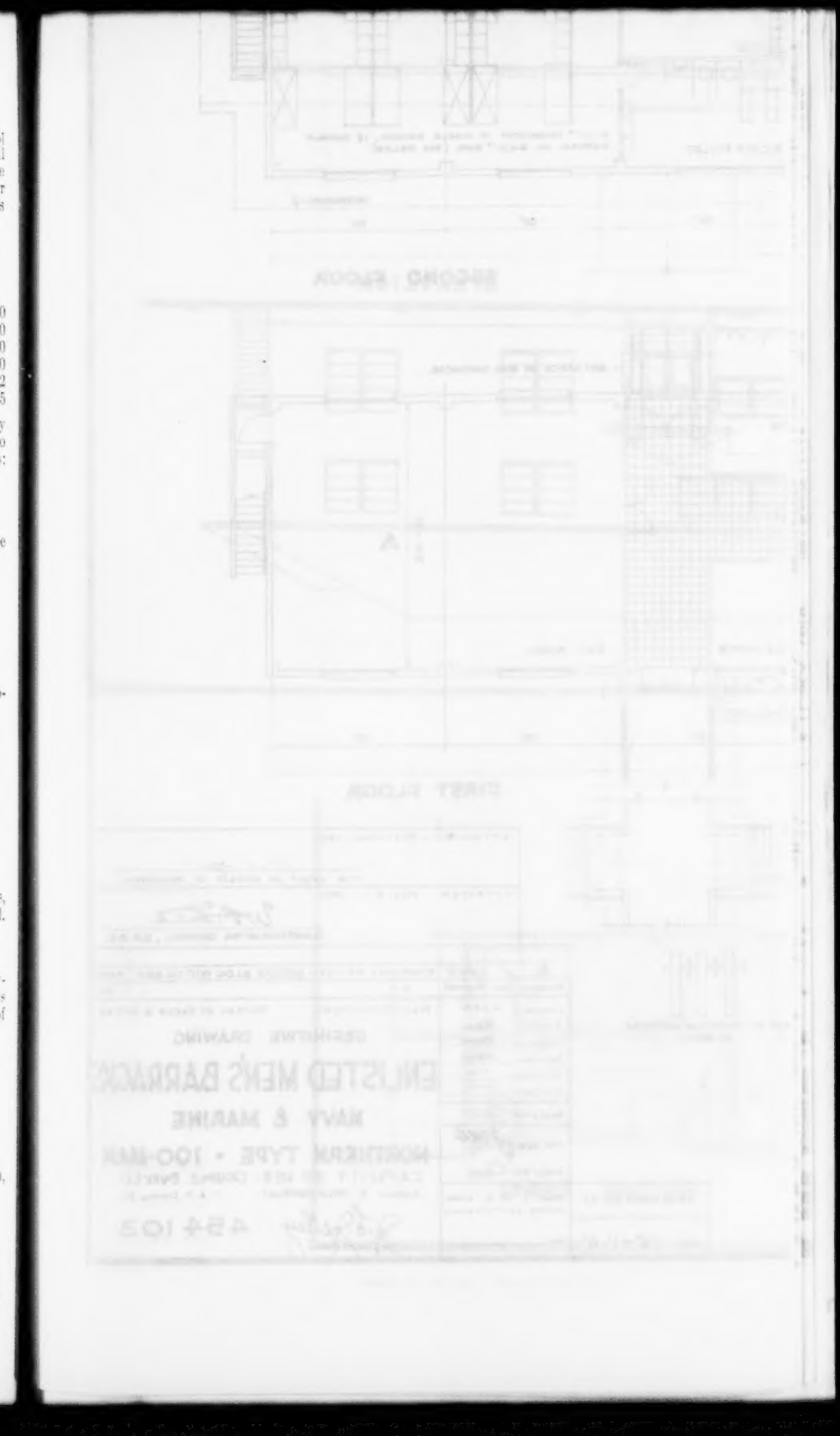
The Bureau has prepared definitive drawings of typical barracks units embodying the criteria set forth herein and they shall be used in conjunction with this criteria whenever new barracks are contemplated. The titles and numbers of these drawings are as follows:

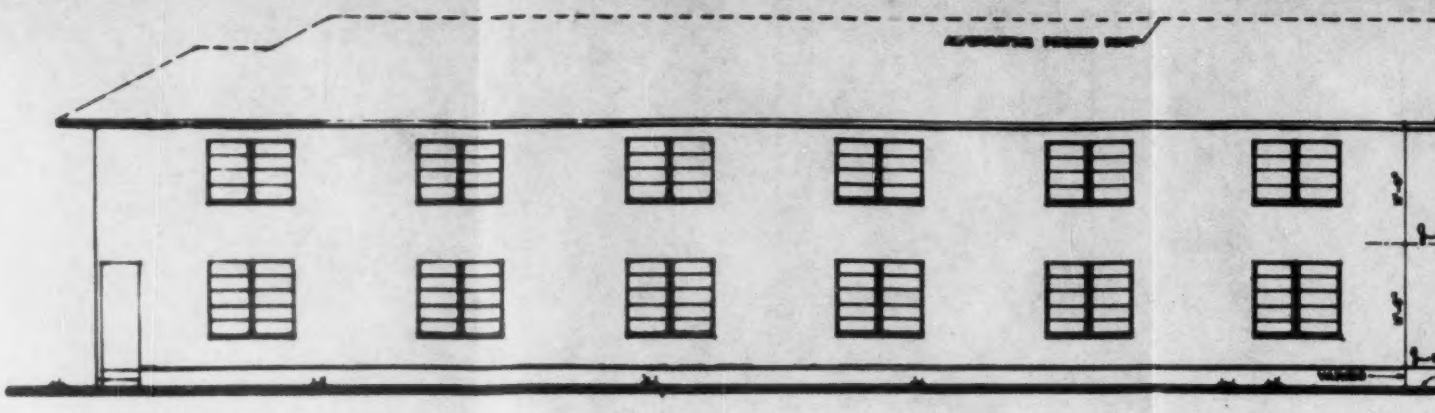
Enlisted Men's Barracks, Navy and Marines

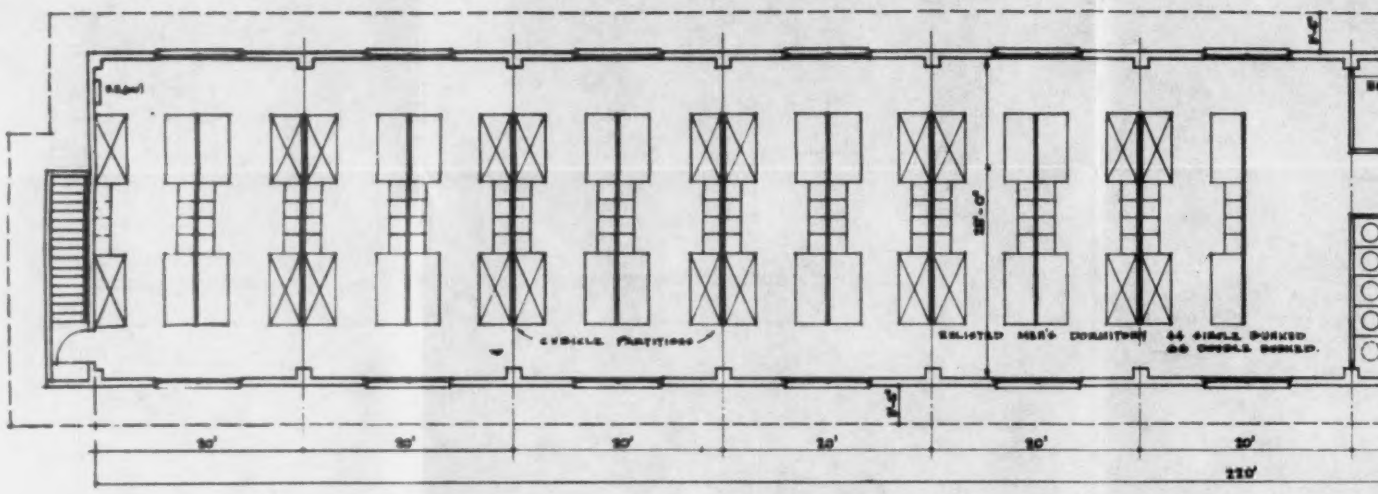
Tropical type, 100-man (Bu. Y&D Dwg. No. 430360)
Temperate type, 100-man (Bu. Y&D Dwg. No. 454102)
Northern type, 100-man (Bu. Y&D Dwg. No. 454103)

6. Additional design criteria

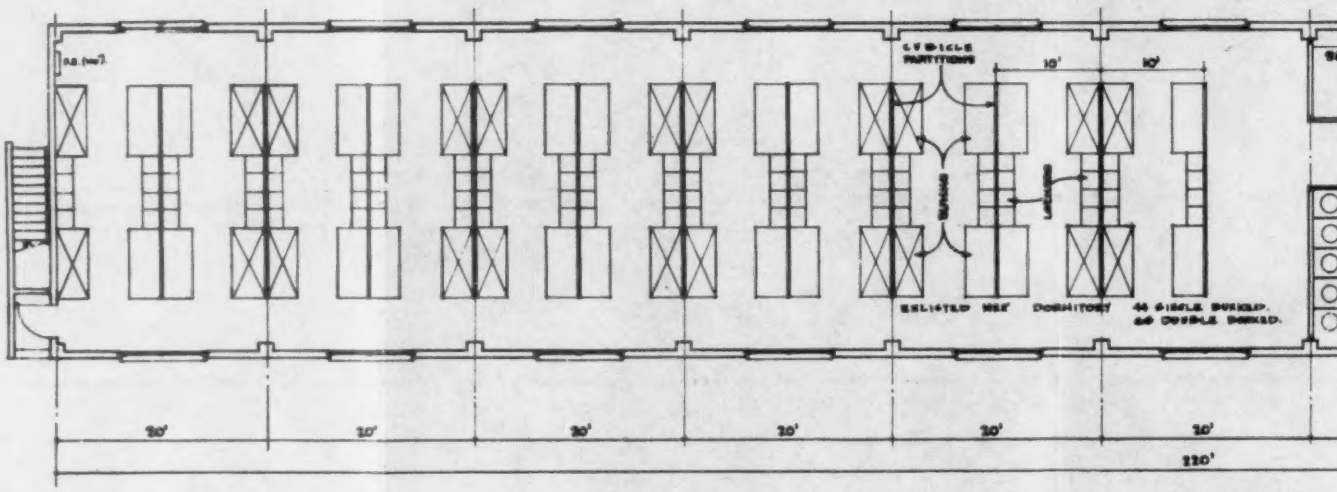
Additional criteria pertaining to architectural features of design, construction, and materials will be issued.



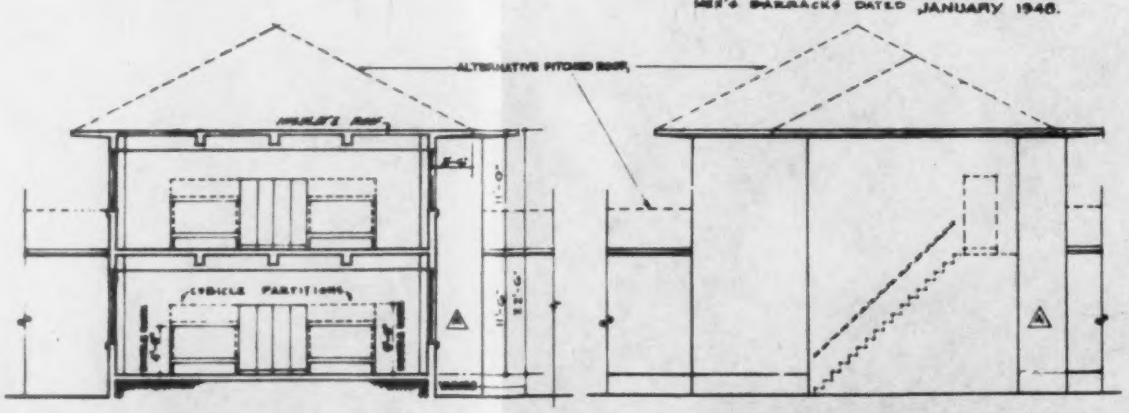




NOTE:
DECKS SHOWN WITH DIAGONALS 44 SHOT TROOP MEN
MAY BE DOUBLE DECKED FOR MAXIMUM OCCUPANCY.



NOTE:
REFER TO Y & D. DESIGN CRITERIA FOR ENLISTED MEN'S BARRACKS DATED JANUARY 1948.



CROSS SECTION

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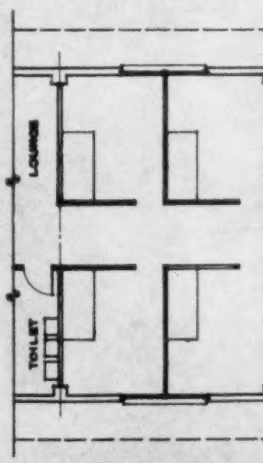
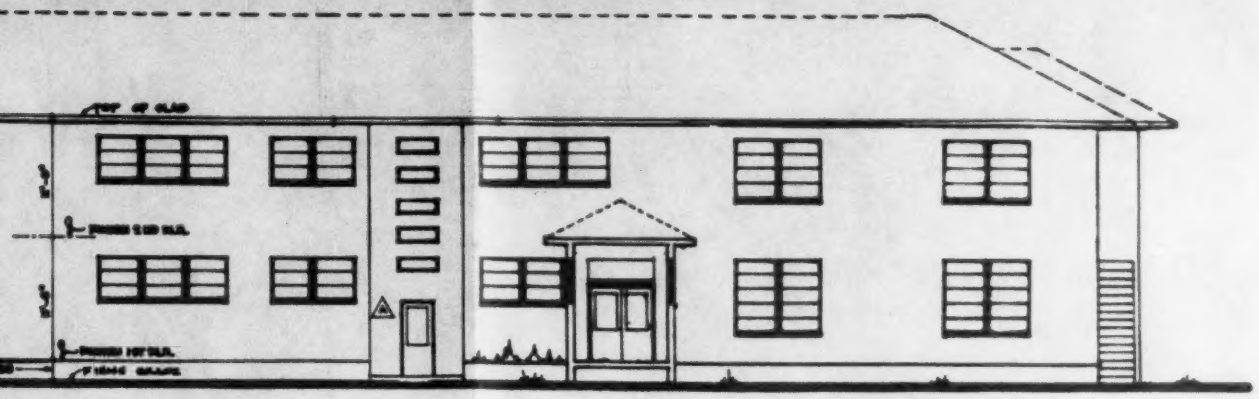
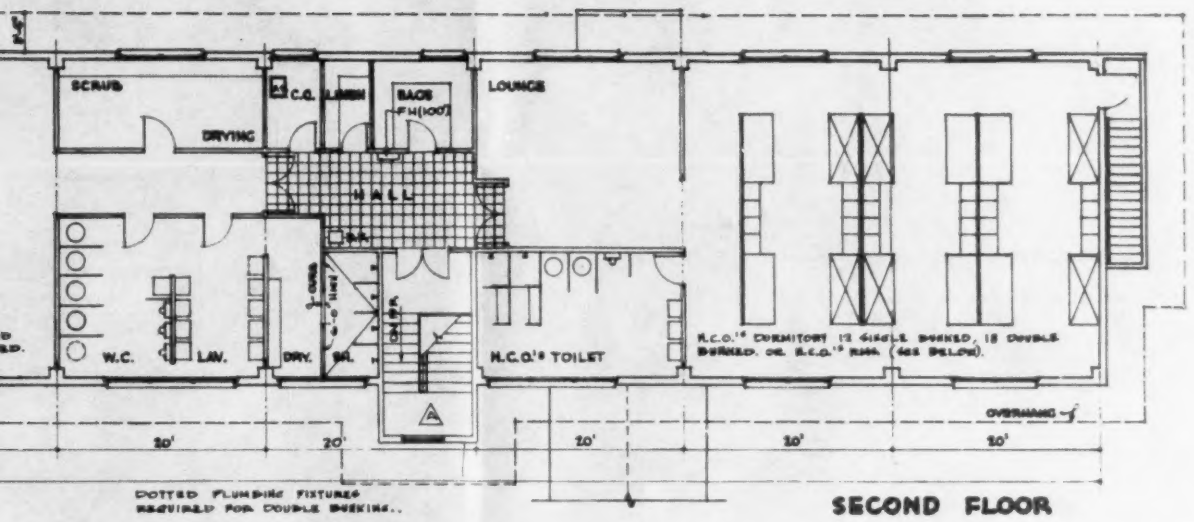


ALTERNATE ARRAN
SECOND FLOOR • PARTIT

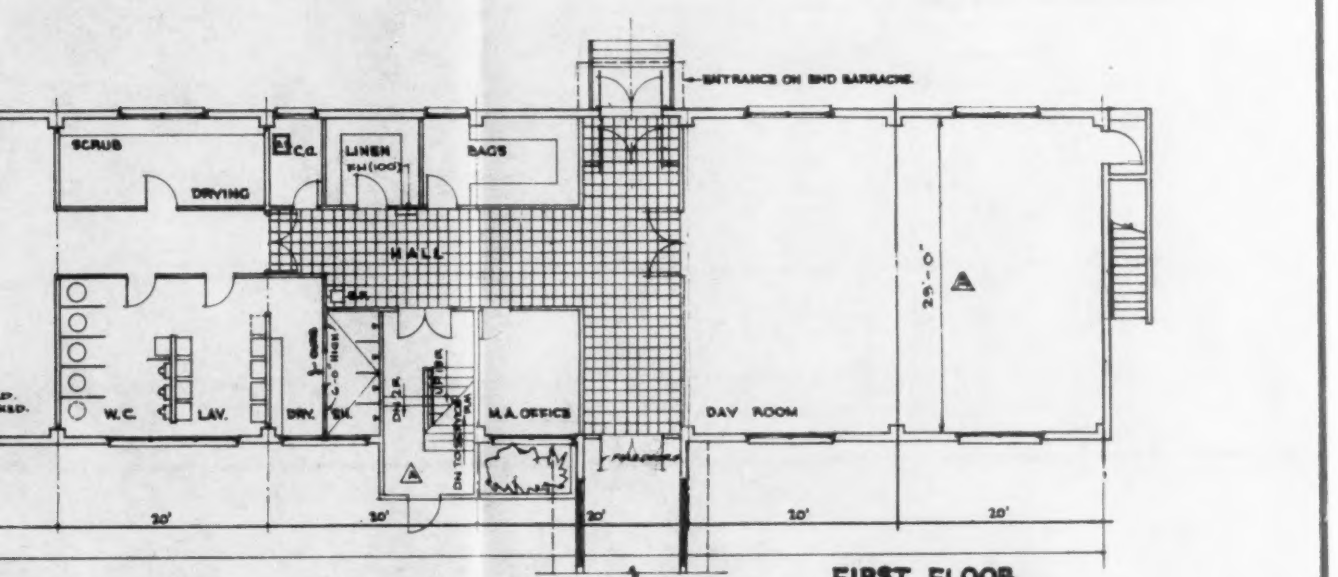


ELEVATION

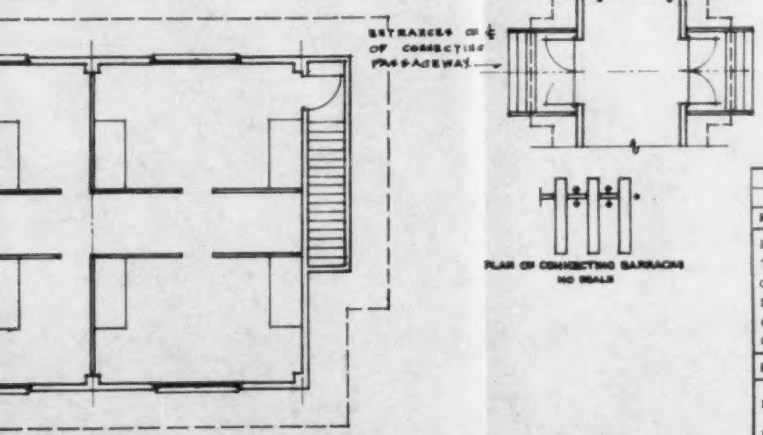


DOTTED PLUMBING FIXTURES REQUIRED FOR DOUBLE BUNKING.

SECOND FLOOR



FIRST FLOOR



PLAN OF CONNECTING BARRACKS
NO SCALE

ARRANGEMENT FOR N.C.O.'s

• PARTITION TO SUIT LOCAL REQUIREMENTS.

APPROVED 6 November 1947.

FOR CHIEF OF BUREAU OF PERSONNEL.

APPROVED. Oct. 9, 1947.

QUARTERMASTER GENERAL, U.S.M.C.

Revision	Date	Approved	Brief	By
A			STAIRWAY REVISED INSIDE BLDG WIDTH REV	

Prepared by J. LAN
Traced by HBAL
Checked by Payne
Supervisor PAPE
Group Chief —
Chief Dftsm. —
Head Archt. Pelle
Proj. Mgr. Jones
Design Mgr. Coyle

160,000 CU. FT.

Scale 1/8" = 1'-0"

Sheet 1 of 1 accompanying specification

No. _____

NAVY DEPARTMENT BUREAU OF YARDS & DOCKS

DEFINITIVE DRAWING

ENLISTED MEN'S BARRACKS

NAVY & MARINE

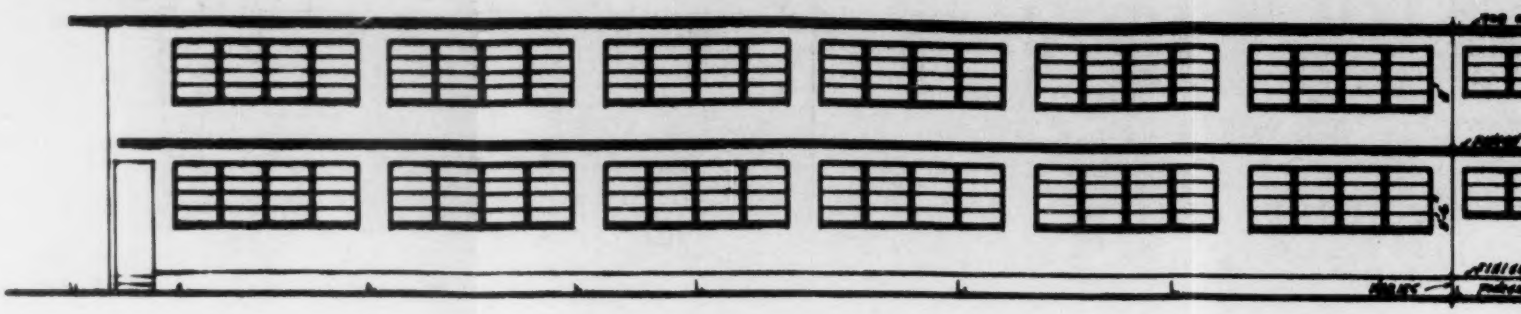
NORTHERN TYPE • 100-MAN

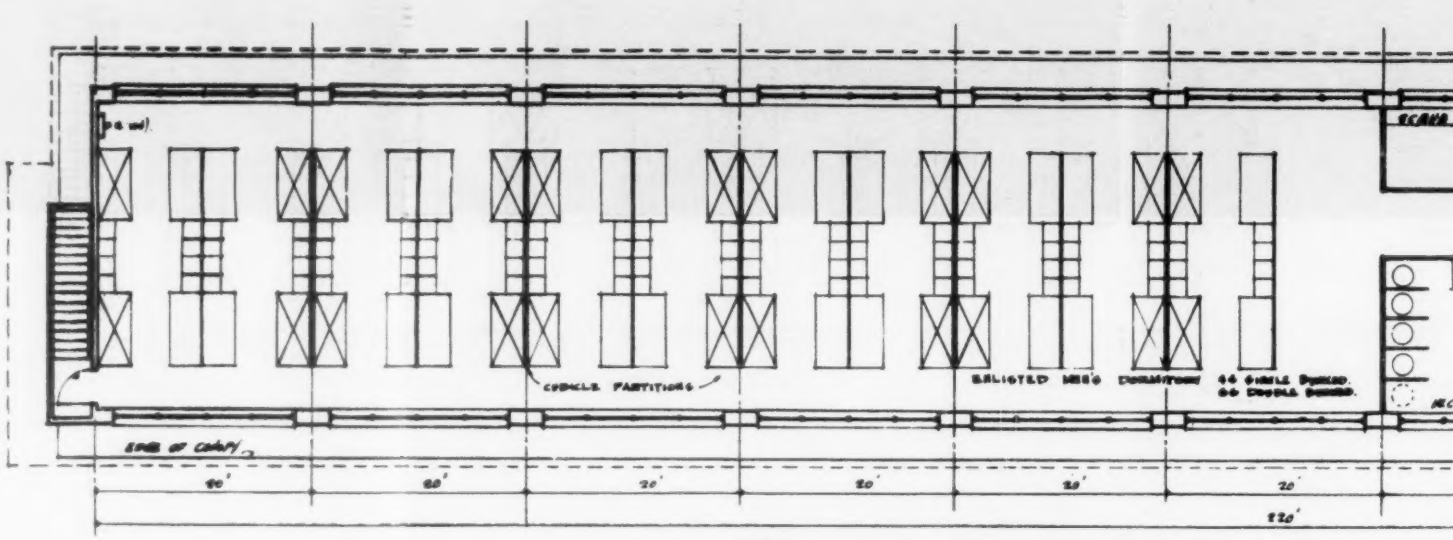
CAPACITY 150 MEN - DOUBLE BUNKED

Approved 7, NOVEMBER 1947

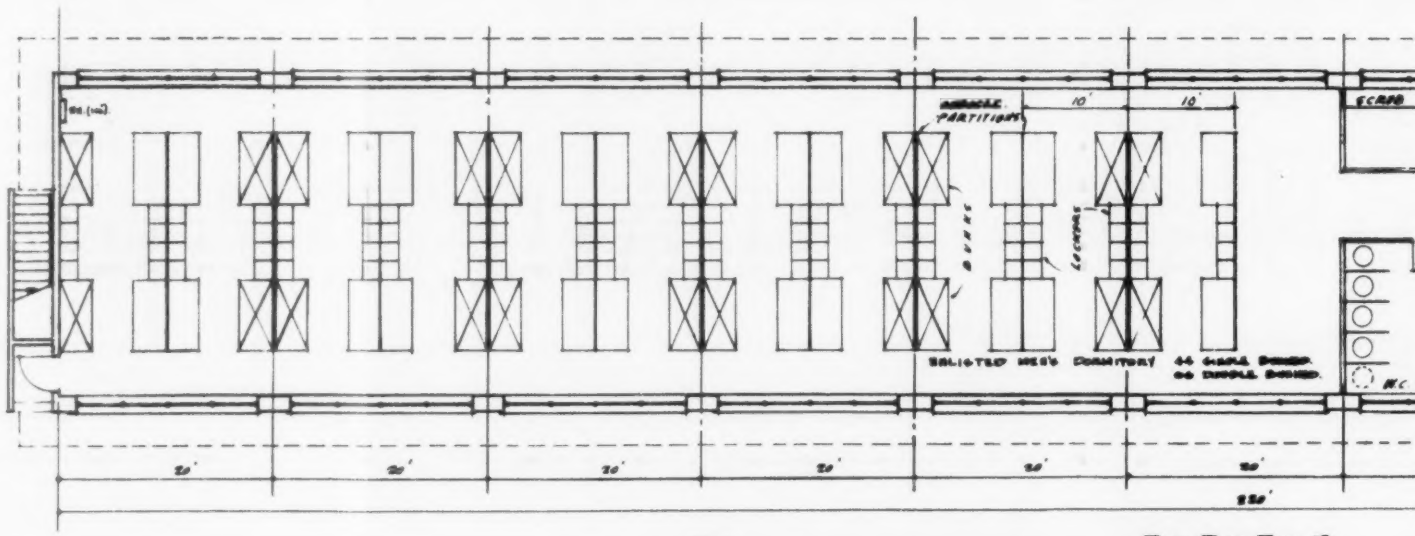
Y. & D. Drawing No. 454103

J. L. Kelley
for Chief of Bureau



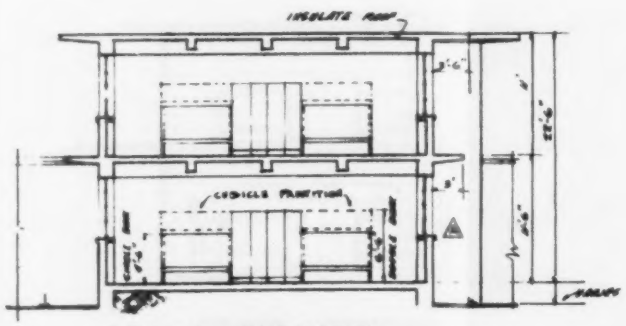


NOTE:
BUNKS SHOWN WITH DIAGONALS ARRANGEMENT THESE MEANS MAY BE DOUBLE BUNKED FOR MAXIMUM OCCUPANCY.



NOTE:
REFER TO U.S.P. DESIGN CRITERIA FOR SELECTED MENS BARRACKS DATED JANUARY 1948

PLAN OF CONSECTIVE BARRACKS
ARROWS INDICATE ENTRANCES.
NOT TO SCALE.



CROSS SECTION

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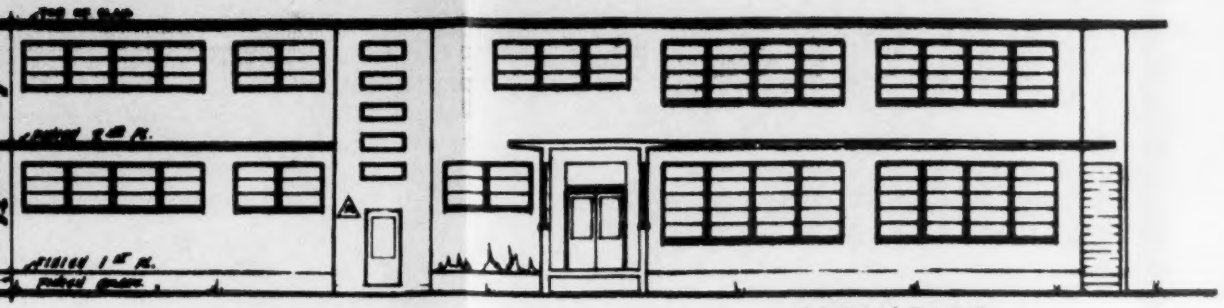

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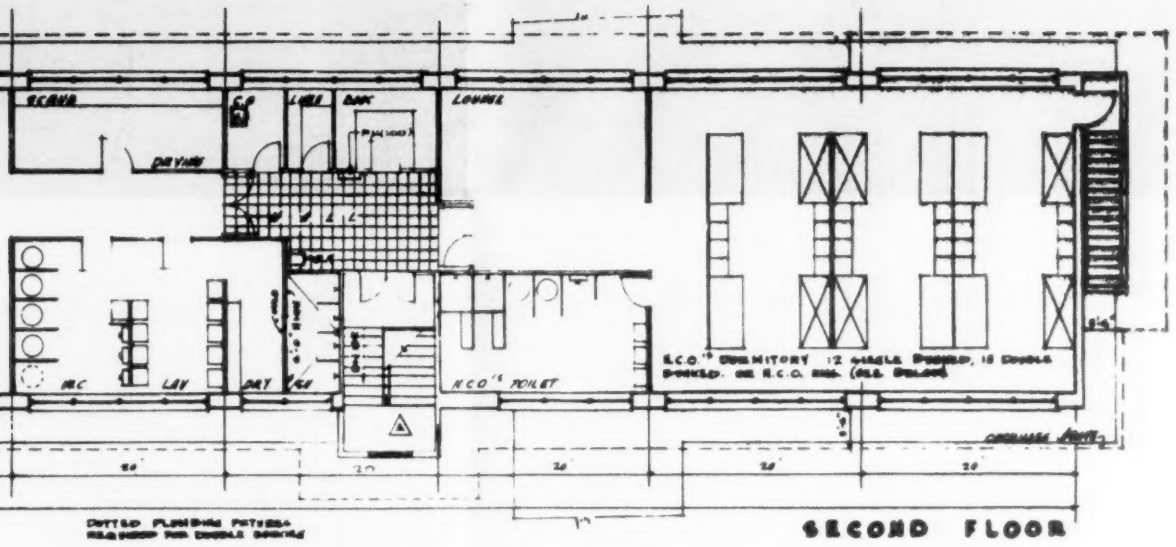
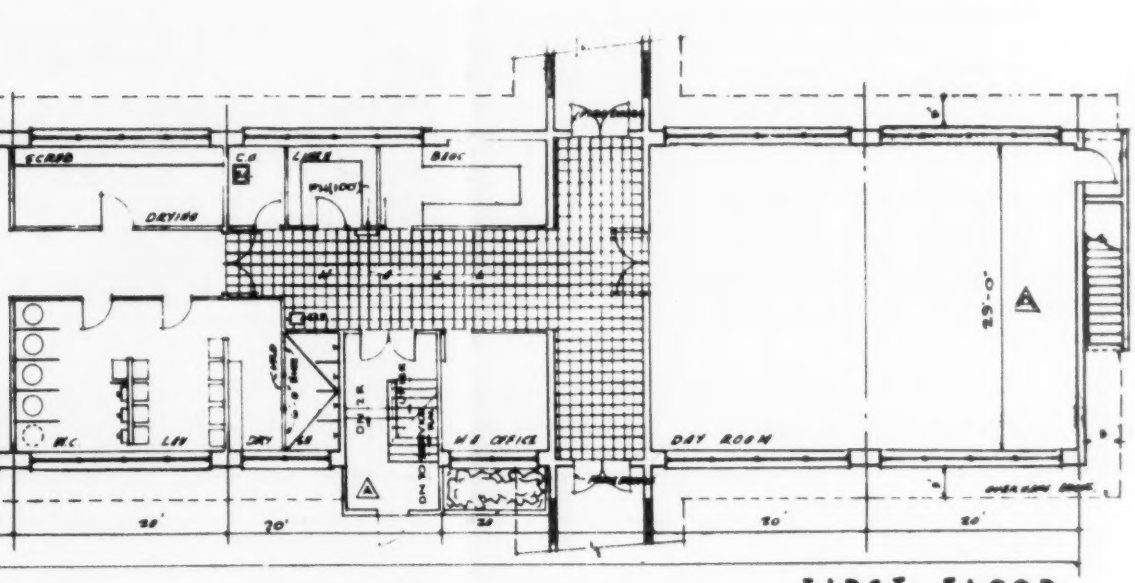


SECOND FLOOR



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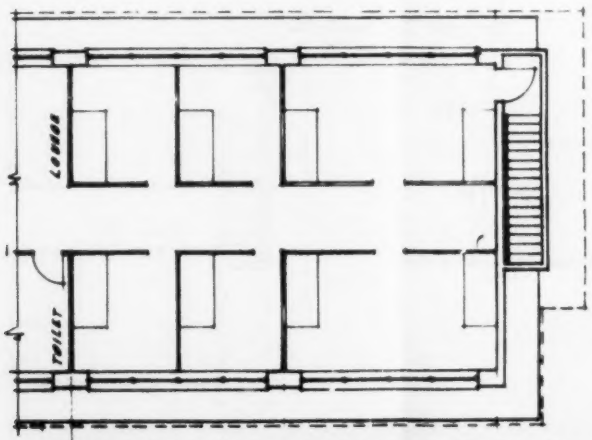


ALTERNATE ARRANGEMENT FOR H.C.O.'S
SECOND FLOOR -- PARTITION TO GET LOCK ARRANGEMENT.

APPROVED November 1941

APPROVED OCT. 8, 1942

Quartermaster General, USA

Revision	Date	Approved	Brief	By
A	1/23/43		STAIRWAY REVISED INSIDE BLDG WIDTH REV.	

Prepared by J.L.A.W.
Traced by J.L.A.W.
Checked by Asst.
Supervisor Asst.
Group Chief —
Chief Draw. —
Asst Archt. —
Proj. Mgr. —
Design Mgr. Capt.

Sheet 1 of 1 sheets; complete specification

NAVY DEPARTMENT — BUREAU OF YARDS & DOCKS

DEFINITIVE DRAWING

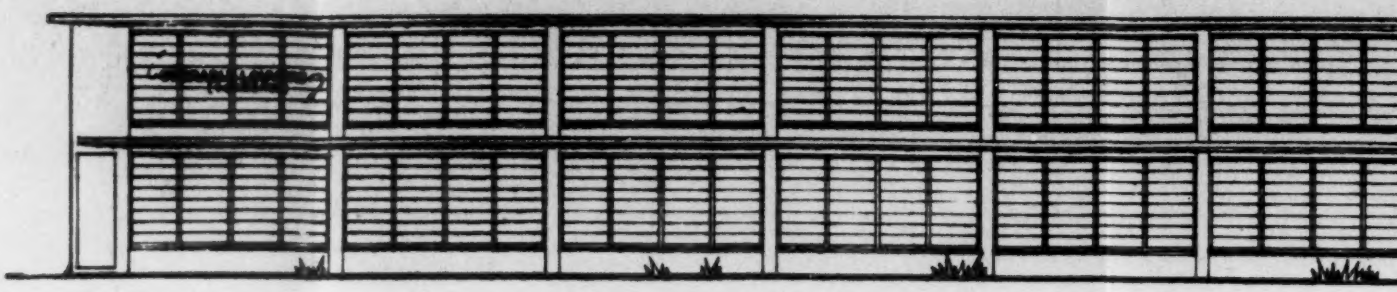
ENLISTED MEN'S BARRACKS

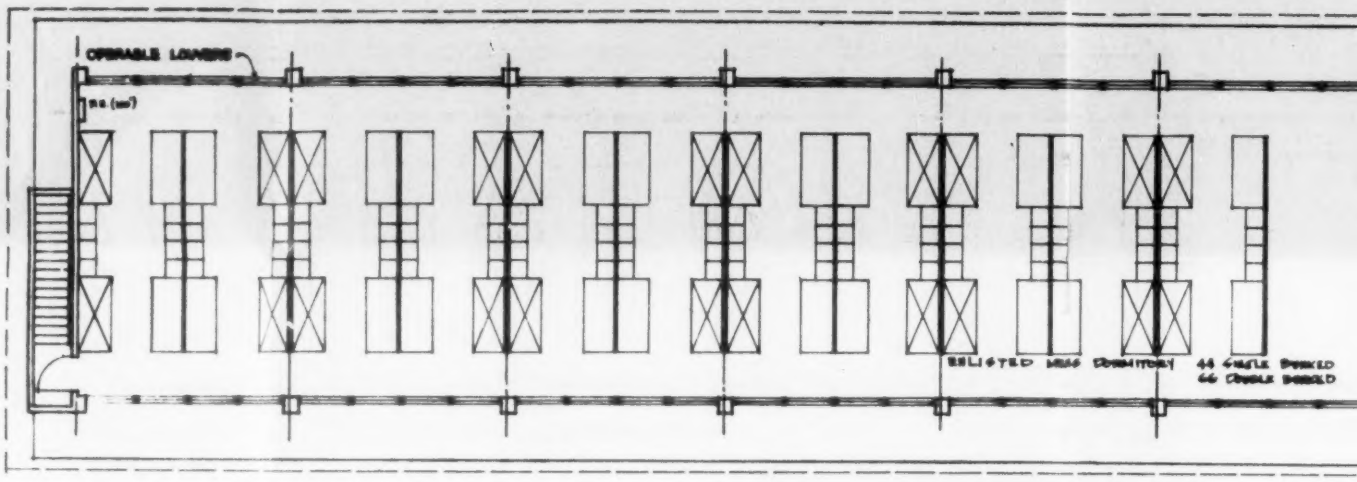
· NAVY & MARINE ·

TEMPERATE TYPE -- 100 MAN
(CAPACITY 100 MEN DOUBLE DECKED)

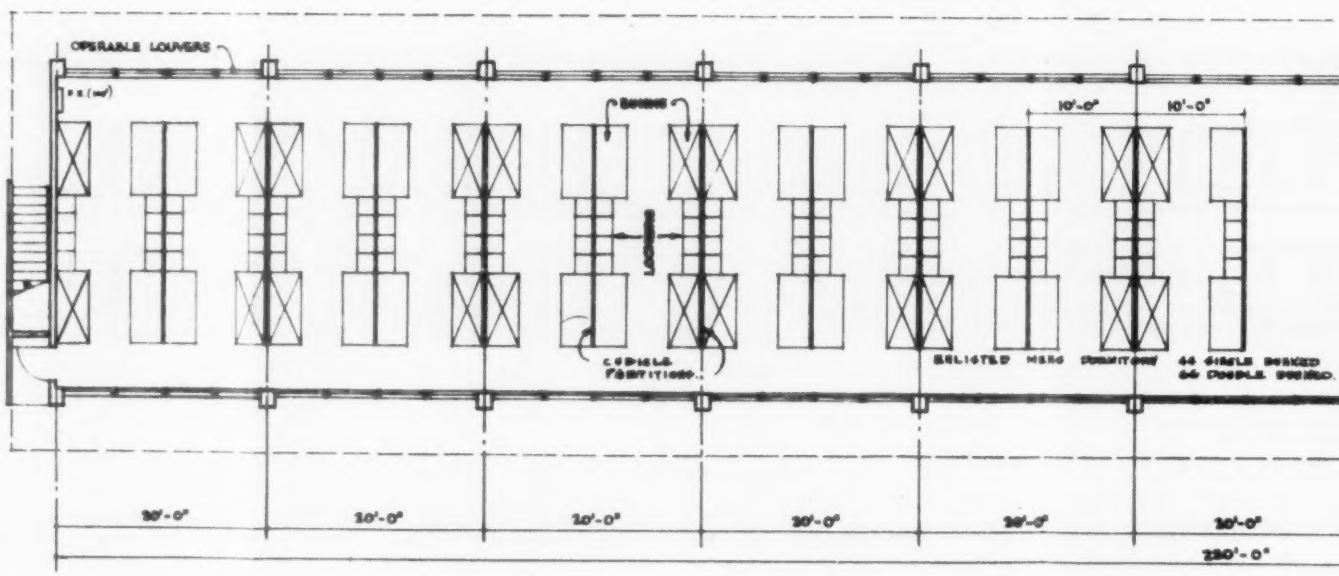
Approved 7, NOVEMBER 1942. Y. & D. Drawing No.

454 102

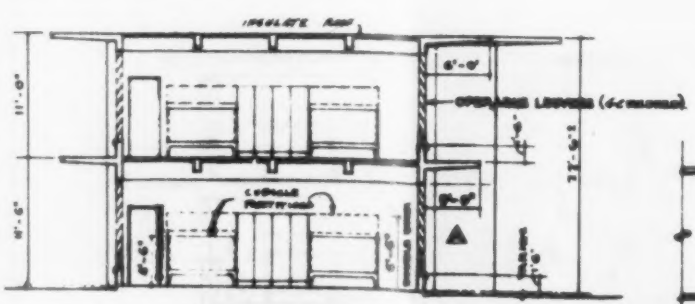




NOTE:
BUNKS SHOWN WITH DIAGONALS SUGGEST THOSE WHICH MAY BE DOUBLE BUNKED FOR MAXIMUM OCCUPANCY.



NOTE:
REFER TO T.I.P. DESIGN CRITERIA FOR BELIGHTED MESS BARRACKS DATED JANUARY 1947.



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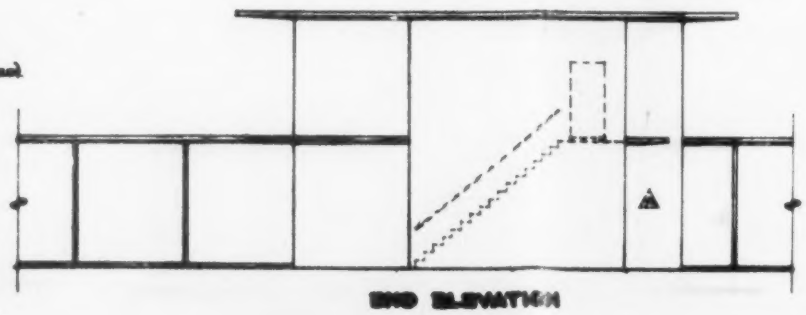
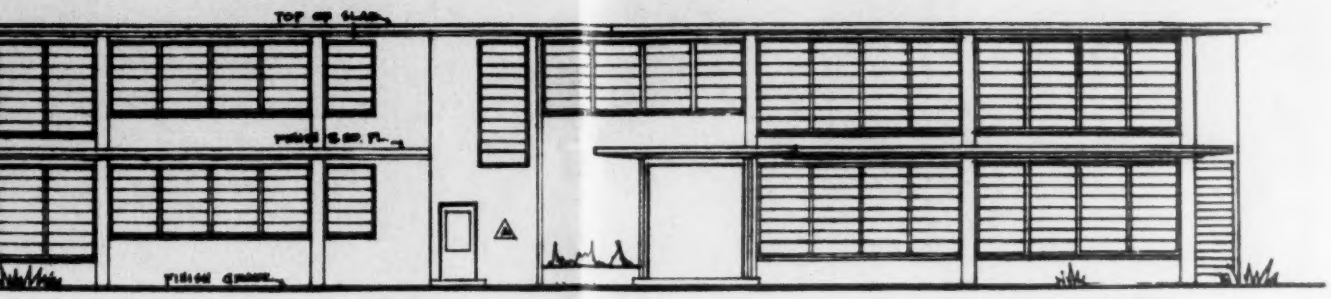


END ELEVATION



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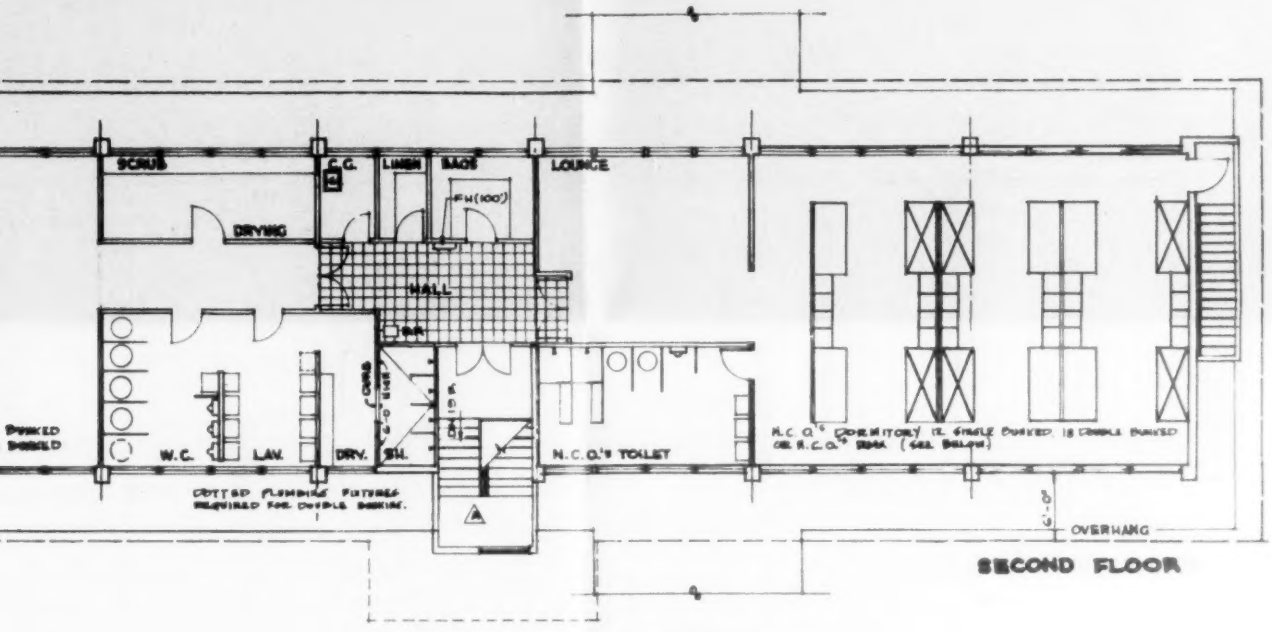

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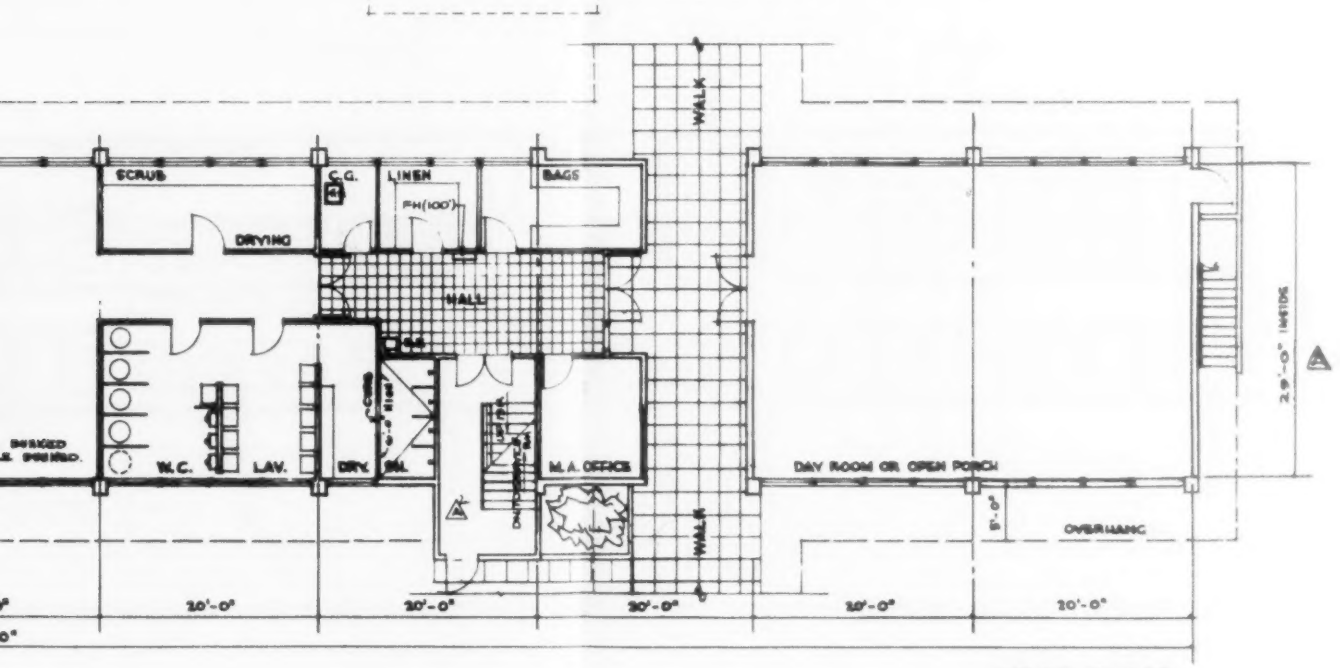

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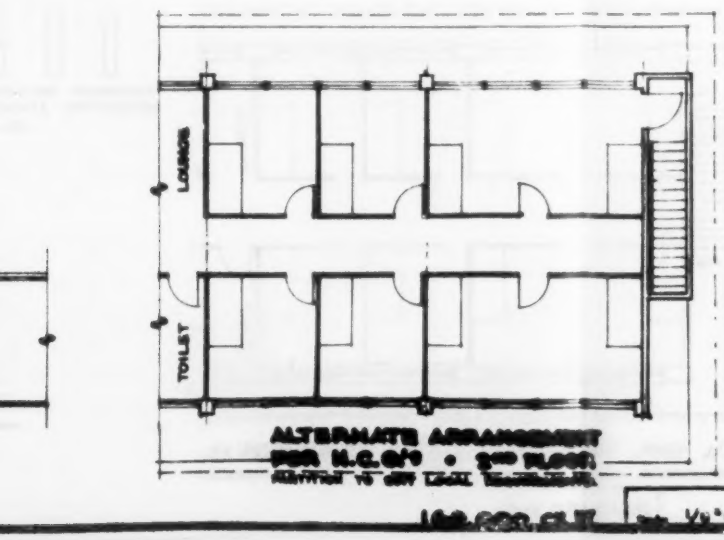

ALTERNATE ARRANGEMENT

APPROVED: May 7, 1947.

QUARTERMASTER GENERAL • U.S.M.C.

Revision	Date	Approved	Brief
1	11/25/47		STAIRWAY REVISED

Prepared by J.J.Law
Traced by
Checked by T.Rapp
Supervisor T.Rapp
Group Chief —
Chief Draftsman —

Sheet 1 of 1 sheets
grouping specification
No.

NAVY DEPARTMENT BUREAU OF YARDS & DOCKS

DEFINITIVE DRAWING

ENLISTED MEN'S BARRACKS

• NAVY & MARINE •

TROPICAL TYPE • 100 MAN

(CAPACITY 180 PER DOUBLE BUNKED)

Approved May 9, 1947

Y & D Drawing No.

430360

DEPARTMENT OF THE NAVY,
BUREAU OF YARDS AND DOCKS,
Washington, D. C., April 17, 1951.

From: Chief of the Bureau of Yards and Docks.
To: Addressees indicated below.
Subject: Enlisted men's barracks. Revisions to definitive drawings for.
Reference: (a) BuDocks Circular Letter No. 2–48 dated January 8, 1948.
Enclosure: (A) Definitive drawings for enlisted men's barracks, Navy and Marine (Y. and D. drawings Nos. 430360, 454102, and 454103) with revision A in a triangle dated January 23, 1951.

1. The subject definitive drawings have been revised. Enclosure (A) is forwarded herewith to replace the definitive drawings submitted with reference (a).
2. The stairway has been revised to provide for an exterior exit door at grade. The partition enclosing the stairway shall be fire-resistant construction having a minimum of 1 hour fire resistance, as defined by the Underwriters' Laboratories, Inc., or the National Bureau of Standards Pamphlet BMS–92. The doors entering the stairway shall have an equal rating.
3. The clear interior width of the building has been increased from 28 to 29 feet.

A. D. HUNTER,
Deputy and Assistant Chief of Bureau.

Distribution: BuDocks circular letter distribution list.

DATA ON INTERIM-TYPE BARRACKS

At the close of the hearings on the Navy public works performance in 1951, Admiral Jelley, Chief of the Bureau of Yards and Docks, advised the subcommittee that his Bureau had revised the standard design criteria for barracks while the hearings were in progress, and he presented the revised criteria in the course of his closing statement, as interim improvements only with further economies to be explored. As indicated at page 289 of the hearings, the interim criteria are as follows:

DATA ON BARRACKS INTERIM TYPE

FEBRUARY 25, 1952.

JOHN J. DONNELLY, Esq.,
Counsel, Subcommittee on Military Construction,
Committee on Appropriations,
House of Representatives, Washington 25, D. C.

DEAR MR. DONNELLY: The Subcommittee on Military Construction requested that the Bureau of Yards and Docks submit revised criteria for an enlisted men's barracks in conformance with the committee's austerity program.

Attached are cost data, square-foot areas and a sketch plan of a barracks, interim type, which it is believed will meet the Navy's needs and comply with the committees desire to cut costs.

This interim type barracks differs from the Bureau's design criteria in the following respects:

(*a*) The interim type barracks is three stories high instead of two which will result in a considerable saving in cost of foundations, roof construction, service lines, roads, walks, and ground area used.

(*b*) The total capacity of the interim type is 172 men (144 enlisted and 28 petty officers) as compared with a capacity of 100 men (88 enlisted and 12 petty officers) in the Bureau's design criteria.

(*c*) Dormitory capacities have been increased by allowing 72 square feet per man on the basis of the entire dormitory area rather than on a bay basis.

(*d*) The capacity of the interim type barracks is based on single bunking but will permit an increase of 48 percent in an emergency by double bunking.

(*e*) The gross floor area (using outside dimensions) have been reduced from 143.64 to 125 square feet per man. The usable area omitting walls, partitions, pipe spaces, and service room in basement has been reduced from 130 to 113.4 square feet per man.

(*f*) The estimated cost of the interim-type barracks is $1,422 per man as compared with $1,910 per man for the design-criteria barracks. This is a decrease of 25.5 percent in estimated cost per man.

Sincerely yours,

J. F. JELLEY,
Rear Admiral, CEC., USN,
Chief of Bureau.

DATA SHEET ON BARRACKS

1. Location of unit and using agency: Based on Bureau design criteria.
2. Classification and description of construction: Permanent construction, flat roof.
3. Date of construction contract and contract No.:
4. Number of similar buildings: 172-man unit.
5. Number of sleeping rooms per building: 3 enlisted men dormitories; 2 noncommissioned officers dormitories.
6. Gross area, outside dimensions (give breakdown in item 11): 21,496 square feet.
7. Construction cost (estimated): $244,600.[1]
8. Cost per square foot: $11.35.
9. Rated capacity: 172—144 enlisted men; 28 noncommissioned officers.
10. Cost per man based on rated capacity: $1,422.09.
11. Analysis of space—Type: Permanent construction. Does barracks house heating boiler?, No. Where built: Bureau Design Criteria. Number of similar buildings: 172-man unit.

Type of space per building	Area (square feet)	
	Gross	Per man [2]
Sleeping rooms (including closets accessible from such rooms):		
Enlisted men	10,397	72.2
Noncommissioned officers	2,291	81.8
Total, enlisted men and noncommissioned officers	12,688	73.7
Lounge space	1,804	10.5
Toilets and janitors' closets	1,803	10.5
Personal storage space	272	1.6
Other storage space		
Corridors	1,243	7.2
Laundry (scrub deck)	480	2.8
Linen	152	.9
Stairs (horizontal projection)	960	5.6
Heating and mechanical equipment (basement)	100	.6
Mess and kitchen space (separate building)		
Administrative space (M. A. A. Office)	100	.6
Study-room space		
Other space—specify (pipe space)	63	.4
Wall and partition space to balance with gross area given in item 6	1,831	10.6
Total	21,496	125.0

[1] If job not yet completed, use latest estimate and so indicate (excluding Government costs, actual and estimated costs, and utilities beyond a 5-foot line and including any Government-furnished equipment, except movable furniture).
[2] Based on rated capacity.

NOTES.—All areas on this page to be computed on basic of inside dimensions: O. K.
Exclude attic and crawl space: None.
Each sheet to contain only data applicable to a multiple of building of the same design under the same contract.

12. Total basement area included in the above: 100 square feet.

DEPARTMENT OF THE NAVY,
BUREAU OF YARDS AND DOCKS,
Washington, D. C., March 7, 1952.

CIRCULAR LETTER NO. 52-9

From: Chief, Bureau of Yards and Docks.
To: Addresses listed below.
Subj.: Criteria for permanent-type 3-story 172-man barracks.

122 per man as com-
This is a decrease of

JELLEY,
, *CEC., USN,*
Chief of Bureau.

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n dormitories; 2 nos
m 11): 21,496 squar

uissioned officers.

Does barracks hou
a. Number of simila

Area (square feet)	
Gross	Per man
10,397	7
2,291	8
12,688	7
1,804	1
1,803	1
272	
1,243	
480	
152	
960	
100	
100	
63	
1,831	1
21,496	12

ng Government costs, actual
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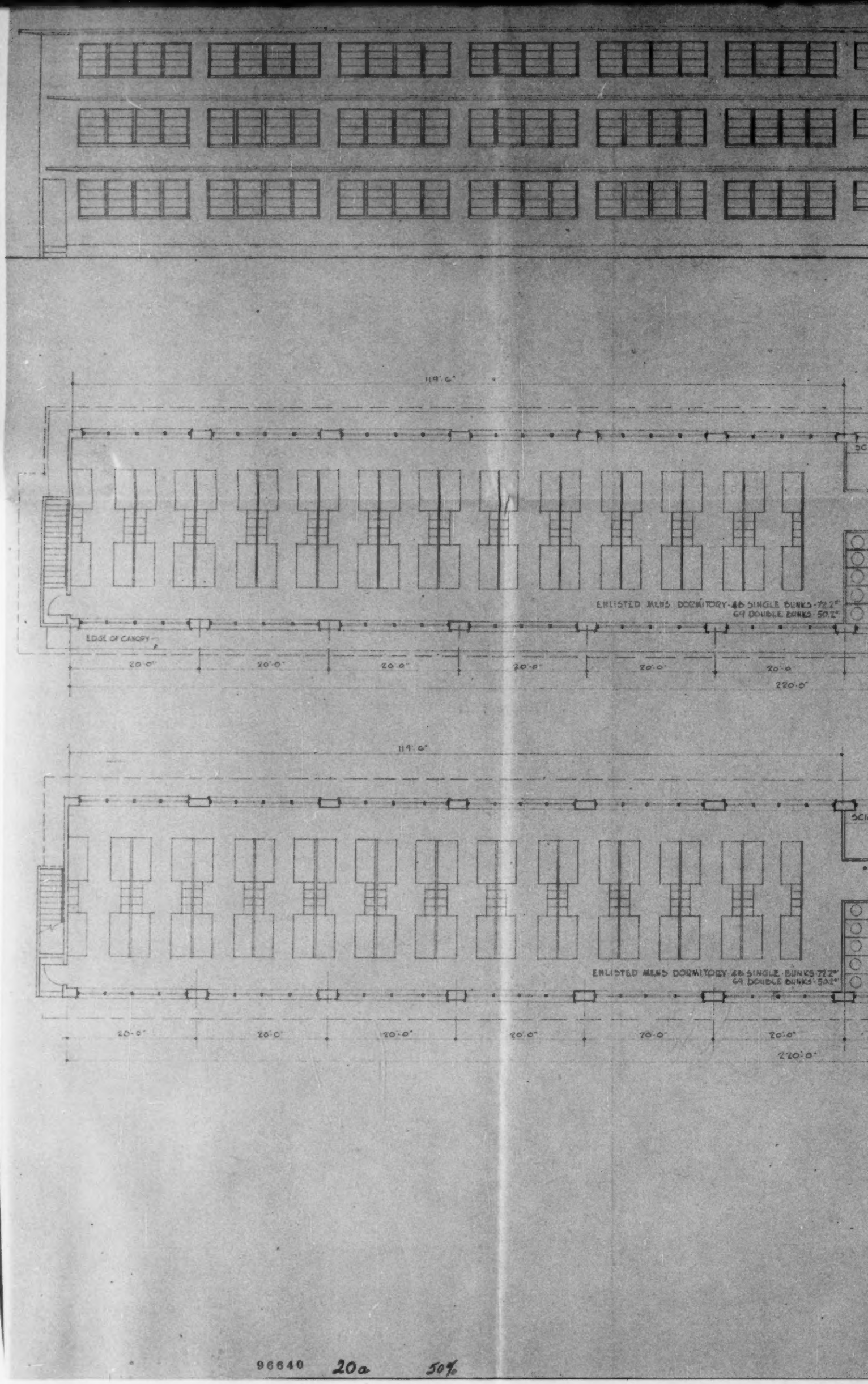
OF THE NAVY,
YARDS AND DOCKS,
n, D. C., March 7, 195

arracks.



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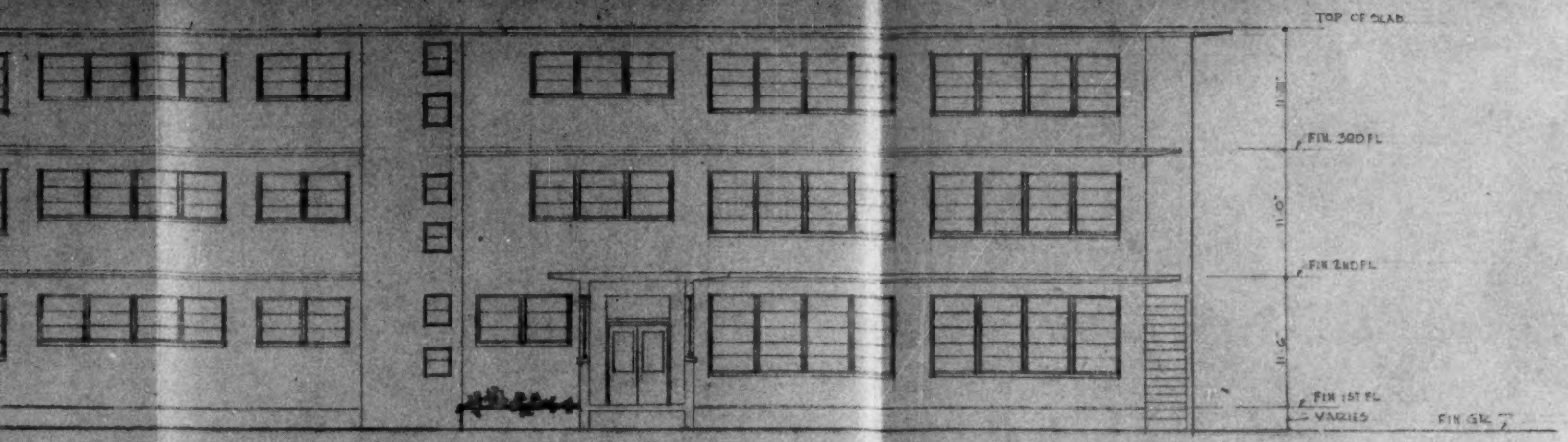
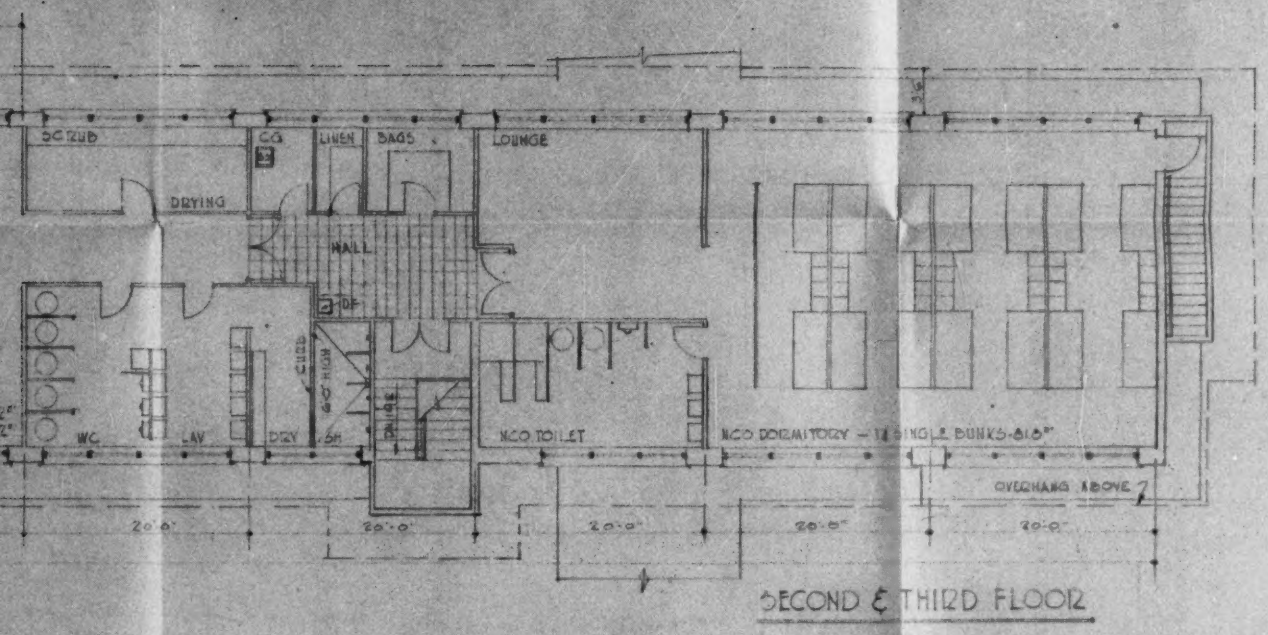
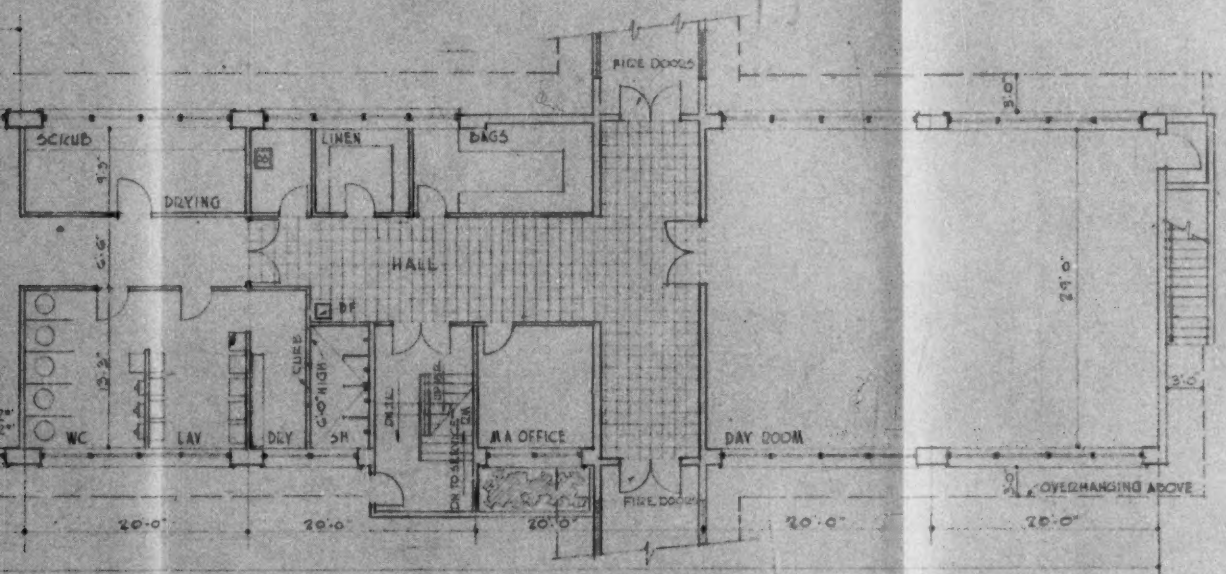


ELEVATION

FENESTRATION SHOWN FOR TEMPERATE TYPE
FENESTRATION DIFFERS FOR TROPICAL TYPE



SECOND & THIRD FLOOR



FIRST FLOOR

SYMBOL	DESCRIPTION	DATE	APPROVAL
	REVISIONS		

DEPARTMENT OF THE NAVY — WASHINGTON, D.C.

BUREAU OF YARDS & DOCKS

DES JJH	DEFINITIVE DRAWING
DRWN JJH TR JJH	ENLISTED MEN'S BARRACKS
CHK	NAVY & MARINES
LDR	172 MEN
SUPV	INTERIM TYPE
HEAD	
MGR	
ENGR CONS	
PROJ MGMT	
DIRECTOR	

APPROVED _____ DATE _____
FOR CHIEF OF BUREAU

W R NUMBER _____

THE COMPUTATIONS FOR THIS DESIGN ARE CONTAINED IN BOOKS _____
THIS INFORMATION IS FOR BUDOCKS E & T S DIVISION ONLY

SATISFACTORY TO _____
DATE _____

SCALE 1/8"=1'-0" | SPEC
SHEET ___ OF ___ | NOy _____
Y&D DWG NO. 554-834

Ref.: (a) CirLtr 2–48, of 8 January 1948; (b) Multi-addressee dispatch 272140Z, February 1952; (3) CirLtr 52–7, of 3 March 1952.

Encl.: (1) Interim design criteria for 172-man barracks (H. W.); (2) definitive drawing, Y&D No. 554834 (S. C.); (3) Criteria of maximum quality and class of construction for permanent barracks; 3 March 1952 (H. W.).

1. Enclosures (1) and (2) supersede the Design Criteria for Enlisted Men's Barracks—Navy and Marines forwarded originally with reference (a). The definitive drawings were subsequently revised—see revision A dated 23 January 1951.

2. Reference (b) gave instructions with respect to the implementation of the austerity program, as it relates especially to barracks, made mandatory by recent congressional hearings. It was stated therein that revised criteria and definitive drawings would be made available. These criteria are contained in enclosures (1), (2), and (3). At this time, reproducible ozalid transparencies of enclosure (2) are being furnished to the recipients of reference (b); and immediately that printed copies of this drawing are received, copies will be forwarded to all addressees of this circular letter.

3. The criteria furnished represent the maximum in space allowances and quality and class of construction that is permissible. Where desirable to meet specific local conditions or to effect further economies, recommendations for departures from the criteria here established may be made to the Bureau for its prior approval. Such recommendations shall be accompanied by all supporting data.

4. Enclosure (3) contains certain optional types of construction and materials—and none should be eliminated from consideration unless it is known that they are uneconomical when viewed from the standpoint of local conditions and local availability of materials or labor. This enclosure also lists certain prohibitive items, for example, suspended ceilings, embellishments, nonfunctional features, finishes that are essentially decorative, nonstock products, etc.

5. The Bureau will prepare similar criteria for other types of buildings that are common to the Naval Shore Establishment; however, pending the receipt of such criteria, the limitations imposed by the enclosures shall be used as a basis for design.

6. The intent of this directive shall be considered as likewise applicable to the rehabilitation, remodeling, and repair of any existing building.

7. Strict observance of reference (c) is required in effecting compliance with this letter.

J. F. Jelley, *Chief of Bureau.*

Authenticated:

J. G. Dodd, *CEC, USN.*

Distribution: BuDocks CirLet Dist. List.

Design Criteria for Enlisted Men's Barracks, Navy and Marines, "Interim Type" Department of the Navy, Bureau of Yards and Docks, March 1952

1. Unit type and capacity

Barracks shall be of permanent construction, designed in individual units of 172 men each (single bunked) and shall be three stories in height. Covered connecting walkways at lower floor shall be provided only in locations where heavy rainfall or protracted inclement weather is usual. Covered walkways shall not be enclosed except in areas of minus 20° temperatures. Such a unit will meet organizational requirements, permit barracks groups of varying sizes, lend itself to building by increment, can be expanded, is easily adapted to sloping contours, and is flexible for orientation. Whenever a barracks of more or less than three stories in height is considered necessary because of some special condition, permission to deviate from the three-story barracks must be obtained from the Chief of the Bureau. Whenever the total capacity of a barracks is less than 172 men or 1 unit, a one or two-story type barracks may be used provided the areas and appointments strictly conform to this criteria.

2. Accommodations

Each barracks unit shall contain three 48-bed dormitories for enlisted men and two 14-bed dormitories for petty officers or NCO's; all bunked singly. Dormi-

96640—52—pt. 1——20

tories shall be two bunks wide, the long sides of the bunks being perpendicular to the long axis of the dormitory. Bunks shall be arranged in cubicles, four bunks each, with dividing partitions, approximately the height of lockers between groups. Space for two standard lockers shall be provided for each enlisted man. Toilet facilities shall adjoin the dormitory. Petty officers or NCO's shall be quartered within the barracks unit and shall be provided with separate dormitory, lounge and toilet. Each dormitory shall have at least two exits, located at opposite ends. Provision shall be made for an enlisted men's day room, a master-at-arms office, bag storage rooms, linen rooms, scrub deck rooms, and cleaning-gear rooms. Halls, stairways and mechanical service rooms shall be provided as required. The 172-man barracks unit shall not contain messing facilities. Messing shall be provided in a central subsistence building. Barracks for a complement of less than 172 men may have messing facilities within the barracks unit.

3. Space allowances

The design of barracks shall be based on the following allowances:

For single bunking

Type of space	Area in square feet	Area per man in square feet	Type of space	Area in square feet	Area per man in square feet
Dormitories:			Toilets and cleaning gear	1,803	10.5
Enlisted men (10,368 at 72).			Bag rooms	272	1.6
NCO's (2,296 at 82).			Scrub deck rooms	480	2.8
Total	12,684	73.7	Linen	152	.9
Day rooms:			MAA office	100	.6
Enlisted men (1,160 at 8).			Corridors	1,243	7.2
NCO's (644 at 23).			Stairs (horizontal projection)	960	5.6
Total	1,804	10.5	Service room (basement)	170	1.0
			Walls and partitions	1,832	10.6
			Total	21,500	125.0

The gross area for a 172-man unit (single bunked), using outside dimensions and including all facilities, shall not exceed 21,500 square feet or 125 square feet per occupant.

The cubic feet of air per man shall be as follows:

Enlisted men's dormitory, 750 cubic feet per man.

Petty officer or NCO dormitory, 860 cubic feet per man.

For double bunking.—If barracks occupancy must be increased in an emergency by double bunking, the number of beds in each dormitory that may be made into double bunks shall be determined by the following minimum space allowances: 50 square feet per man; 450 cubic feet per man.

4. Plumbing allowances

Design shall be based on the following plumbing allowances:

The ratio of plumbing fixtures to the number of men for single bunking shall be as follows:

Fixtures, single bunking

Lavatories, one per 5 men.
Water closets, one per 10 men.
Showers, one per 15 men.
Urinals, one per 20 men.
Scrub decks, one-half lineal foot per man.
One cleaning-gear room, with slop sink, per floor.
One drinking fountain per floor.

Shower rooms shall be provided with dividing partitions between shower heads, raised at least 1 foot above the floor to permit a common floor drain at wall. Toilet stalls shall be constructed without doors.

5. Enlisted women

Enlisted women shall be provided with the same accommodations and space allowances as provided for enlisted men of the same grade with the following additions and exceptions:

(a) In addition to the day room, provide a reception room, 4 square feet per occupant. (Minimum of 120 square feet.)

(b) In lieu of scrub deck room, provide a laundry with laundry trays and outlets for washing machines and ironing boards.

(c) Plumbing allowances: water closet,[1] one per 6 women; showers, one per 16 women; bath tubs, one per 48 women; dental lavatory, one per 25 women.

6. Definitive drawings

The Bureau has prepared a definitive drawing of a typical barracks unit embodying the criteria set forth herein and it shall be used in conjunction with this criteria whenever new barracks are contemplated. The title and number of this drawing is as follows:

Enlisted Men's Barracks, Navy and Marines, Interim Type

172 men (single bunked); 250 men (half double bunked) (Bu. Y. and D. Drawing No. 554834).

7. Conclusion

The intent of the Bureau's design criteria shall be strictly adhered to when designing enlisted men's barracks. Should any deviations from the design criteria be considered warranted, due to special conditions, permission must be obtained from the Chief of the Bureau of Yards and Docks.

Design Criteria for Enlisted Men's Barracks

The subcommittee suggested to the Chief of the Bureau of Yards and Docks, in the course of the hearings, that consideration be given to the issuance of a compilation of construction materials that would simultaneously provide durability and economy. (For example, see pp. 74 and 289 of the hearings.) Admiral Jelley in a commendable spirit of cooperation caused to be issue shortly thereafter the following documents:

CRITERIA OF MAXIMUM QUALITY AND CLASS OF CONSTRUCTION FOR PERMANENT BARRACKS

March 3, 1952.

General notes

1. All departures from the maximum grades and classes prescribed herein shall be referred to the Bureau for its prior approval.

2. Where increased initial cost is offset by long-range economy, B products of materials more critical than those stated herein may be substituted.

3. Where more than one material or type of construction is listed, they should be made optional with the bidders eliminating from consideration only items known to be more expensive under particular local conditions.

4. The following shall not be used:

(*a*) Acoustical tile
(*b*) Suspended ceilings
(*c*) Plastering, except as noted herein as necessary for fireproofing
(*d*) Coatings on exterior masonry above grade except cement-water paint on concrete block or tile
(*e*) Metallic pans under showers, toilets, etc.
(*f*) Embellishments, such as stone trim, steps, and belt cornices; planting boxes; terrazzo; ornate fixtures; ornamental metal work; colored concrete, etc.
(*g*) Nonfunctional features, such as elaborate entrance motifs; sun decks, etc.
(*h*) Brick bonds other than common (running) bond
(*i*) Masonry or metal furrings
(*j*) Covered walks except where heavy rainfall or protracted inclement weather is usual
(*k*) Enclosed walks except in 20° below zone
(*l*) Parapets
(*m*) Downspouts connected to storm-water drains except where such drains are immediately adjacent to the site
(*n*) Floor drains except in shower rooms
(*o*) Rubbed finish on concrete

[1] Toilet stalls shall be constructed with doors.

(*p*) Nonstock items, sizes, patterns, finishes, weights, etc.
(*q*) Fire lines and hose racks (provide portable fire extinguishers)

I. *Footings.*—Poured concrete, reinforced if necessary.

II. *Structural frame.*—(*a*) Columns and piers: 1. Reinforced concrete; (*b*) Floor construction: (1) Reinforced-concrete-poured beams and slabs (all types), (2) Steel, cellular, supported on reinforced-concrete beams except first floor slab; underside shall be plastered on metal lath, (3) Reinforced-concrete and tile or cinder block arch construction; (*c*) Roof construction: (1) Same as (*b*) 1–2–3, (2) Precast concrete.

III. *Exterior walls.*—(*a*) Reinforced concrete, poured; (*b*) reinforced concrete, precast; (*c*) solid brick including cavity type; (*d*) brick with backup (tile or block) including cavity type; (*e*) concrete masonry units or tile; (*f*) sandwich panel.

IV. *Fire walls.*—Same as III (*a*), (*c*), (*e*); except that for walls under 12 inches in thickness (*e*) must have three-fourths-inch cement plaster on both faces.

V. *Partitions.*—(*a*) Reinforced concrete; (*b*) brick; (*c*) concrete masonry units or tile; (*d*) structural facing tile provided shower is on one side.

VI. *Enclosure-type partitions.*—(*a*) Metal; (*b*) wood; (*c*) marble.

VII. *Roof covering.*—Built-up, four-layer, surfaced; minimum slope, 1 : 24; maximum, 1 : 6.

VIII. Sheet metal and flashings.—(*a*) base flashing; felt on cants; (*b*) counterflashing, gravel stops and facias, gutters, downspouts, ventilators, louvers, etc.; zinc-coated steel.

IX. *Stairs, interior.*—Reinforced concrete with metal nosing.

X. *Windows.*—(*a*) Wood; double-hung, awning; (*b*) steel; double-hung, awning, commercial projected, pivoted, casement; (*c*) aluminum; same types as (*b*).

XI. *Jalousies.*—Wood, aluminum.

XII. *Doors, painted finish only.*—(*a*) Exterior: wood-paneled; steel, hollow metal; steel, tubular; (*b*) interior: same as (*a*); Wood, flush; (*c*) fire doors: metal-covered; metal: steel-clad.

XIII. *Floor finishes.*—(*a*) Concrete: dusted-on, with applied hardener; (*b*) ceramic mosaic or quarry tile; in toilets, shower and drying rooms, scrub-deck room, cleaning-gear room; (*c*) asphalt tile: dormitory, day room, c. p. o., lounge, m. a. office.

XIV. *Thresholds, saddles, dividing strips.*—(*a*) Cast iron, (*b*) marble, (*c*) zinc (dividing strips only).

XV.—*Wall finishes.*—(*a*) Structural facing tile, provided shower is on one side; (*b*) exposed construction, generally except see wainscots.

XVI. *Wainscots.*—Structural facing tile. Showers, full height; toilet and drying rooms, 7 feet; elsewhere, 5 feet, except storage.

XVII. *Ceiling finishes.*—Exposed construction.

XVIII. *Trim.*—Wood or metal to match frame.

XIX. *Insulation.*—Roof: fiberboard, fiber glass, cellular glass.

XX. *Glazing.*—Up to 12 square feet, three-sixteenths-inch heavy sheet; (*b*) over 12 square feet and in doors; one-fourth-inch plate. (NOTE.—Obscure glass in toilets, showers, and drying rooms.)

XXI. *Rough hardware.*—(*a*) Exterior, zinc-coated; (*b*) interior, uncoated.

XXII. *Finishing hardware.*—(*a*) Butts and hinges: steel, zinc-coated or primed for painting; (*b*) locks: nonferrous except cases of steel; (*c*) trim: nonferrous or plastic; (*d*) for windows, malleable iron unplated for wood and steel; nonferrous for aluminum.

XXIII. *Waterproofing, membrane.*—Exterior walls of occupied spaces below grade; and under showers and drying rooms, scrub-deck rooms, toilet rooms.

XXIV. *Plumbing.*—(*a*) Water: piping zinc-coated steel except where analysis of water dictates nonferrous material; (*b*) wastes and vents: under 4 inches, zinc-coated steel; 4 inches and larger, cast iron; (*c*) fixtures: vitreous china except service sinks of enameled cast iron; (*d*) trimmings and fittings: stock nonferrous. (NOTE.—All piping run exposed.)

XXV. *Heating.*—Steam from central system: use 37Ya, except radiation to be ferrous material. (NOTE.—All piping run exposed.)

XXVI. *Electrical.*—(*a*) Conduit: electric metallic tubing; (*b*) fixtures: generally, standard semiindirect with enclosing globes; for dormitory cubicles use standard bracket fixture with integral convenience outlet.

XXVII. *Painting.*—(*a*) Exterior: wood and steel; primer and two coats of oil-base paint; (*b*) interior: wood and steel; primary and two coats of oil-base paint except in areas subject to moisture, use primer, enamel under-coater and enamel; (*c*) interior masonry: primer and one coat of oil-base paint except in areas subject to moisture use finish specified for wood and steel.

Navy's Implementation of Austerity Program in Construction Projects

The following documents relate to the Navy's implementation of the austerity program in construction operations:

Department of the Navy,
Bureau of Yards and Docks,
Washington 25, D. C., February 19, 1952.

Economy in construction stressed in the following summary of Bureau staff meetings sent to senior Civil Engineer Corps officers on independent responsible duty on the following dates:

No. 1–51 dated January 11, 1951

"There is enclosed herewith, enclosure 1, a copy of a letter which the Bureau prepared and which the Chief of Naval Operations has signed regarding the criteria for public works construction. It is hoped that this letter will be of assistance to you and your personnel in discussions with the users of projects in our efforts to simplify all construction.

"The Chief requests that all of your personnel who are concerned with developing plans for construction should be furnished with a copy of this letter, as well as all outside architects and engineers who are designing Navy public works projects."

No. 1–51 dated January 11, 1951

"A copy of correspondence regarding maximum standards for rehabilitation of all types of inactive installations for immediate mobilization is enclosed herewith."

No. 2–51 dated February 2, 1951

"The Navy Inspector General has sent a special board, headed by Rear Adm. William K. Harrill, USN, to inspect training stations to assure that the facilities being provided are not too elaborate. This is in line with Admiral Sherman's letter of January 2, 1951, on public works construction (included with confidential memorandum 1–51), indicating that the Inspector General is to give special attention to these matters."

No. 3–51 dated March 15, 1951

"The Chief of Naval Operations plans to send classified bulletins from time to time to flag and general officers to keep them informed of thinking and developments in the Navy Department. In connection with the discussion on the approved program objectives for period through fiscal year 1952, in Bulletin No. 1, Admiral Sherman commented as follows:

"Some of the more important program objectives are:

"'* * * A public works program to provide for modernization of air stations, augmented and improved communications facilities, a few additional support facilities, and replacement of present nonpermanent structures which have high maintenance costs. I consider it of great importance that this program both in its planning and implementation phases contain no "plush" or other features which cannot be completely justified.'"

No. 4–51 dated March 30, 1951

"The Chief of Naval Operations in his Personal and Confidential CNO Bulletin No. 2 to Flag and General Officers stressed the following policies, and requested that they be given continued personal attention:

"'*Economy of facilities.*—New shore activities must not be established unless they are absolutely necessary. Expansion of present facilities will be held to a minimum. In new construction and rehabilitation, all features which are of a luxurious nature will be eliminated. In conformity with congressional requirements, it is the policy to rehabilitate present buildings, if such can be done so that they would be operable for a period of 2 or 3 years, rather than to replace them with new buildings.'"

No. 4–51 dated March 30, 1951

"Excerpts from hearings before the Armed Services Subcommittee of the House Appropriations Committee regarding public works projects are enclosed herewith for your information, to reflect the attitude of the Congress toward current and future public works programs. These were forwarded to bureaus and offices of the Department by the Comptroller of the Navy with his letter of 26 March, which is also enclosed.

"* * * Your attention is invited particularly to the fact that the committee has indicated that where existing structures may be rehabilitated for use for a period even as short as 1 or 2 years, it is their desire that this be done rather than that the buildings be removed and new structures constructed. Further, the committee has directed that they be advised with respect to every project where the Navy proposes to tear down and rebuild a structure. Thus, it is incumbent upon Navy witnesses to be prepared to justify in detail the removal and reconstruction of any structure.

"* * * In this connection I (Comptroller of the Navy) advised the committee at the time that I would communicate their ideas and thoughts as to the austerity of the program and their expectancy that a very careful screening would be made of all the programs of the Navy prior to their submission to the committee."

EXCERPTS FROM HEARING BEFORE THE ARMED SERVICES SUBCOMMITTEE OF HOUSE APPROPRIATIONS COMMITTEE ON MARCH 14, 1951

Mr. TABER. * * * This is something that I want to see the armed services get in mind. Everybody is being asked to do without things as a result of these taxes. We are not going to have money enough to go around and we are not going to have the labor force and the materials sufficient to go around on any kind of program except just what has to be done to carry things through. I am afraid the military are coming up to us with a lot of other things that could just as well be postponed, or which are not being done in the most economical way.

"Therefore, I am of the opinion that we ought to be very careful about how we proceed to involve the Government in projects, and that the military has to show a sense of cooperation.

"Now, you know we just took a little tour around the country that wound up last week. We did not find enough of that spirit as we went around. Unless the armed services are going to get themselves in that frame of mind, where they are prepared to cut out the things they can get along without, and do the job that is in front of them, we cannot keep this country right side up. That is about the picture.

"Mr. MAHON. I think, Mr. Taber, you have expressed the viewpoint of all the members of the committee. I think the Military Establishment ought to understand that situation. * * *

"Mr. SCRIVNER. In other words, Mr. Chairman, this is not directed merely at the Navy, but all the Armed Forces; and you are saying that they must realize that they have to undertake an austerity program, just as the civilians are doing. * * *

"Mr. MAHON. That is right. * * * Now, may we depend upon an effort being made so that these projects will be just as austere as possible and that everything that can be eliminated will be eliminated?

"Admiral HOPWOOD. I will communicate the ideas and thoughts expressed by the committee this morning as to the austerity of the program which they expect and the careful screening of the programs which they expect from the Navy, in any further communications with this committee concerning appropriations for public works projects."

No. 6–51 dated May 8, 1951

"A controlled materials plan is scheduled to go into effect beginning on July 1. Under this plan, defense and defense-supporting production and construction will be programed and essential materials made available, using the same common denominators as in World War II—steel, copper, and aluminum. Forms and regulations are supposed to be distributed in May. Admiral Jelley expects to adopt a policy that we will not try to do the work in a central office, but will do it where the plans are drawn in the districts."

No. 7–51 dated June 4, 1951

"Hearings on this proposed civil engineering program before the House Appropriations Subcommittee took two entire days. A digest of the questions that were asked is given herewith for your information as to the trend of the questioning.

"*Research and development and engineering research facilities.*— * * * Is there any more to be learned about making concrete more water or moisture resistant? Would you be interested enough in a new process to change your specifications? What do you know about construction methods where large slabs are poured on the ground and then lifted into place? Why shouldn't the Navy

use these new methods of construction? How much have you got in here for prefabricated buildings? * * *

"*Defense housing.*— * * * Are these houses owned by the Navy? Is it planned to phase out most of them into public quarters in 1952? If you turned them into public quarters you would have to spend a lot of money repairing them, buying furniture, etc., wouldn't you? How much have you expended on repairs this year? What is the average cost of repairs per unit? When you repair these houses, what do you estimate the life of them will be? What is the date of the oldest houses and the date of the newest houses? What repair work has been done in that time? What was the nature of those repairs? What condition are the roofs in? Has termite control been used? Have space heaters and kitchen stoves been replaced or repaired? How did you arrive at the cost of this work."

No. 8–51, dated June 8, 1951

"The Bureau of the Budget has now completed their studies of the public-works programs for the three services, and has prepared recommendations and certain broad principles to be followed as guides for marking individual projects. Following is a summary of these recommendations:

"*Troop housing.*—The recommendations allow 72 square feet per man, net, for troop housing at permanent stations. The same general provisions are made for troop housing at temporary stations, except that the net allowance per man is less than the 72 square feet for permanent stations.

"*Medical facilities.*—This program has made available a total of 98,700 beds, which is 7,800 short of the requirement. The reduction results from using a lower per square foot cost and a lesser per square foot bed allowance for construction in order to provide for only a minimum standard of design.

"*Bachelor officers quarters.*—At permanent stations it is proposed to allow permanent construction for BOQ units up to 10 percent of the officer strength for the Army and Navy and 12½ percent for the Air Force, on the basis of not to exceed 260 net square feet per man. * * * At temporary stations it is proposed to construct a 'modified emergency' type of construction which would have a theoretical life of 10 years.

"*Family housing at permanent stations.*—Present authorization acts limit the net area of family quarters to 1,080 square feet * * * The Bureau of the Budget recommends the inclusion of a limitation which would provide that family housing, authorized under the proposed bill, would be limited to an average size of 1,080 square feet, net, and a maximum size of 1,250 square feet, net."

No. 13–51, dated September 28, 1951

"Hearings before the subcommittee of the House Committee on Appropriations on the Navy portion of the 1952 military public works appropriation bill began on Monday morning, September 24. The day-long hearings were completed on Wednesday evening. * * * A résumé of the general trend of the questioning is attached herewith.

"*General.*—Are you of the opinion that this is an austere program and that these funds are actually needed in view of the large increases in construction costs?" * * *

No. 15–51, dated December 6, 1951

"A summary of the criteria for the Army, Navy, and Air Force public works construction program for fiscal 1953 is attached herewith for your information.

"*Forces.*—Facilities to be included will be limited to minimum operational and logistic requirements.

"*Utilization of existing facilities.*—Computation of requirements will be based upon maximum use of existing facilities. * * * Existing temporary facilities shall be used to the fullest extent possible. * * * Projects for replacement of existing facilities will not be included in this program except where retention would result in hazard to health or life or in instances where the rehabilitation and annual maintenance cost estimates would exceed one-fifth of the new construction replacement cost of the facility.

"*Standards of construction.*—Permanent type of construction (25-year life) will be limited to:

"(*a*) Projects at permanent installations in continental United States and overseas, such as Alaska and Okinawa, to accommodate only the demonstrably permanent requirements at each installation for authorized budgetary strength of the forces in being July 1, 1950.

"(*b*) Those projects for which the need is demonstrably permanent and is independent of troop strength.

The remainder of the projects will be of temporary type construction (10-year life, or less).

"*Troop housing.*—Barrack space allowances will not exceed 72 square feet per man for personnel regularly assigned to the base."

No. 15–51, dated December 6, 1951

"Senator Lyndon Johnson's Preparedness Committee has made the following recommendation in a report on conditions affecting morale, training, and manpower utilization at six Navy and Marine Corps installations located throughout the United States:

" 'That the Department of the Navy include in its fitness reports on Navy and Marine Corps officers a new category designated "cost consciousness." An important factor in the determination of an officer's efficiency should be his demonstrated ability to conserve men, money, and materials. Such ability should be one of the basic qualifications required for promotion and advancement.'

"It is understood that a recommendation will be made that this subject should be reflected in fitness reports by including such reflection in grading of 'Administration,' but more particularly by comments under 'Remarks.' "

No. 2–52, dated February 4, 1952

The Assistant Secretary of the Navy at a recent Bureau chiefs' meeting discussed the acute shortages of various materials, and stressed the necessity for devising substitute material and conservation methods. If this is not done, many of our production and construction objectives will be unattainable, particularly in the event of full mobilization.

We have received a cut of approximately 20 percent on most items in the second quarter CMP requirements.

Copper continues to be in extremely short supply. It is anticipated that aluminum will have to be substituted for copper in wire and cable for electric power transmissions in many cases. Some of the Bureau's contractors have already begun to do this. An investigation is being conducted as to the possibility of substituting aluminum in electrical systems.

A quarterly report will be required by the Office of Naval Material as to the Bureau's progress with substitutions starting on April 1, as part of the over-all Department of Defense conservation program.

DEPARTMENT OF THE NAVY,
OFFICE OF THE CHIEF OF NAVAL OPERATIONS,
Washington, D. C., November 24, 1951.

From: Chief of Naval Operations.
To: All ships and stations.
Subject: Conservation of manpower, money, and materials.

1. *Purpose.*—This instruction is promulgated to direct that all commands lay greater stress on the conservation of manpower, money, and materials.

2. *Background.*—Recent surveys conducted by the Preparedness Subcommittee of the Committee on Armed Services, United States Senate, have reported a lack of appreciation of the necessity for enforcing drastic economies in the utilization of manpower, money, and materials. The Chief of Naval Operations considers that this report is a matter of concern to every echelon and component of the Naval Establishment.

3. *Manpower.*—It is desired to impress upon all commands that misuse of manpower is one of the most serious potential sources of waste in the service. A survey is currently being conducted by the Navy at a major shore installation to determine how greater economics can be effected in the utilization of manpower qualified for employment at sea. The results obtained will be used as a pattern for other shore installations as applicable. Meanwhile, it is incumbent upon all commands to continue their efforts to:

(*a*) Effectively utilize available manpower to the maximum extent.

(*b*) Initiate steps toward reduction of manpower requirements wherever possible.

(*c*) Insure that special training, skill, and qualifications are not wasted but are used to maximum benefit.

4. *Materials and funds.*—Extravagant use of materials and funds must likewise be guarded against. No matter of material economy is too small to merit due consideration. Small economies, when multiplied, will often exceed larger ones and are therefore equally significant. Sound methods of control must be in operation which will stem any tendencies toward waste which may develop, particularly during the current period of expansion.

5. *Economy.*—A necessary attribute of all officers and other supervisory personnel should be a sense of economy which is reflected in their ability to conserve manpower, money, and materials. The Senate Preparedness Subcommittee termed this attribute "Cost consciousness," and recommended that it be considered as a factor in the determination of an officer's fitness.

6. *Implementation.*—All commands are directed to lay greater stress on the attention being given this matter. In implementing this instruction, commands are invited to inform the Chief of Naval Operations of major economies affected which may be of interest and assistance to other naval activities.

D. B. DUNCAN,
Vice Chief of Naval Operations.

DEPARTMENT OF THE NAVY,
BUREAU OF YARDS AND DOCKS,
Washington, D. C., February 9, 1951.

From: Chief, Bureau of Yards and Docks.
To: District public-works officers.
River Command public-works officers.
Subject: Current and proposed construction projects. Use of standard and typical plans for.
Reference: (*a*) CNO letter 21/mb A1-1 (Y&D) January 2, 1951, to Commandant naval district and river commands; (*b*) BuDocks Cirlet No. 2-48 dated January 8, 1948.
Enclosure: (1) Listing of Bureau design criteria, specification and contractual requirements and military standards.

1. The Chief of Naval Operations, by reference (*a*), directed that maximum use be made of available Yards and Docks plans for typical structures which conform to the established criteria for permanent, semipermanent and temporary command construction. In order to comply with this, the Bureau will provide the district public works officers copies of existing applicable drawings and specifications for certain standard structures and guides to existing criteria, standards, and other data. The Bureau is now reviewing the lists of projects in the 1951 and 1952 budgets and selecting the structures for which plans are available and those for which guides will be given. This processing will be completed in the near future and each addressee will be advised accordingly.

2. In order to establish uniform design criteria relating to engineering and architectural work for Navy construction, the Bureau by reference (*b*) promulgated a program for design criteria including definitive drawings for the use of those engaged in the planning and design of construction under the cognizance of this Bureau. Further design criteria developed since the date of the issuance of reference (*b*) will be a great assistance to the various architectural and engineering firms now under contract for the new public-works programs. For the guidance of each district public-works officer administering A&E contracts, enclosure (1) is forwarded, which lists the Bureau's available design criteria and also lists military standards of drawing practice, specification, and contractual requirements. Copies of the listed items will be forwarded upon request.

JOHN J. CHEW,
Acting Deputy Chief of Bureau.

LISTING OF BUREAU DESIGN CRITERIA, SPECIFICATION AND CONTRACTUAL REQUIREMENTS, AND MILITARY STANDARDS

I. BUREAU DESIGN CRITERIA

(*a*) Enlisted men's barracks
(*b*) Roads, parking areas, sidewalks, and bridges
(*c*) Refrigeration
(*d*) Heating, ventilating, and air-conditioning
(*e*) Central steam plants
(*f*) Water systems
(*g*) Sewerage systems
(*h*) Plumbing systems for buildings
(*i*) Structural
(*j*) Brigs
(*k*) Quarters for married personnel
(*l*) Earth-supported concrete floor slabs
(*m*) Fire-fighting facilities
(*n*) Electrical systems
(*o*) Fire prevention and fire protection for structures
(*p*) Enlisted men's subsistence buildings

II. MILITARY STANDARDS, DRAWING PRACTICE

*(a) JAN–STD–1, General drawing practice
*(b) MIL–STD–2A, Drawing sizes (marked copy)
*(c) JAN–STD–4, Format for construction drawings
*(d) Circular Letter 16–48 (marked copy)
*(e) Title forms for schematic; and drawing sizes B and C
*(f) JAN–STD–12, Abbreviations for use on drawings
(g) JAN–STD–14. Architectural symbols
(h) JAN–STD–15, Electrical and electronic symbols
(i) MIL–STD–18, Structural symbols
(j) JAN–STD–19, Welding symbols

III. BUREAU STANDARDS OF DESIGN

(a) 3Y, Standards for design of concrete
(b) 5Y, Radial brick and concrete chimneys
(c) 8Y, Tanks, steel, and wood
(d) 12Y, Standards of design for structural steel (supplementing 1A, standards for design of welded structural steel). (NOTE.—Standards of design for timber structures will be incorporated in Bureau standard specification 28Yd (see V).)

IV. CONTRACTUAL DATA

NavDocks *197—Standard form of construction contract
NavDocks 192—Standard form of equipment purchase contract
NavDocks *767d—Instructions to bidders
NavDocks *766e—Standard form of bid
NavDocks *793a—Notice to prospective bidders
United States *25—Performance bond
United States *25A—Payment bond
United States *P–49—Contract Administration Manual

V. DATA FOR PREPARATION OF SPECIFICATIONS

*P–34—List of specifications used in contracts for public works
*129f—Form for preparation of specifications
*765—Form for preparation of advertisement

NOTE.—Items marked (*) shall be furnished to all A&E contractors. Items not marked shall be issued as appropriate for the work to be performed. Copies of the listed items may be obtained from BuDocks Code C-330.

It should be noted that certain sizes of drawings and types of format, included in MIL-STD-2A and JAN–STD–4, respectively, have been adopted as Bureau standards. These standards are noted in publications (*d*) and (*e*) under II. Military standards, drawing practice.

DESIGN CRITERIA

The design criteria, which are given wide distribution, have incorporated in them all of the current limitations of statutory, Munitions Board, and Navy Department regulations. They are usually accompanied by definitive drawings.

Facility and date issued

Traffic control towers, December 7, 1951
Cold weather areas, July 26, 1951
General warehouse, one story, June 5, 1951
Fuel storage, April 19, 1951
Structural theory for protective construction, April 10, 1951
General guide to aerial mapping for construction planning and design purposes, April 2, 1951
Incinerators, March 27, 1951
Structural lumber, January 24, 1951
Enlisted men's subsistence building, May 17, 1950
Fire prevention and fire protection for structures, April 25, 1949
Electrical systems, April 14, 1949 (revised May 14, 1951)
Fire-fighting facilities, January 19, 1949
Earth-supported concrete floor slabs, November 19, 1948

Quarters for married personnel, Navy, Marine, and civilian, November 15, 1948
Structural, August 27, 1948
Brigs, Navy and Marine, September 3, 1948
Plumbing systems for buildings, July 2, 1948
Sewerage systems, May 21, 1948 (revised July 27, 1948)
Heating, ventilating, and air-conditioning, April 23, 1948
Water systems, May 21, 1948
Central steam plants, May 5, 1948
Refrigeration, April 7, 1948
Roads, parking areas, sidewalks, and bridges, January 23, 1948
Enlisted men's barracks, August 27, 1948 (revised April 17, 1951)

LIST OF AVAILABLE DESIGNS FOR STRUCTURES IN THE CURRENT PUBLIC-WORKS PROGRAM, DECEMBER 20, 1951

PART I. STANDARD STRUCTURES (FORMERLY CALLED PROTOTYPES)

Structures for which working drawings, designated by the Bureau of Standards, are developed for use as contract drawings. Transparencies of these drawings furnished for such use shall be used without alteration thereof or additions thereon. Necessary departures therefrom, for contract purposes, to adapt them to the local-site conditions shall be made by means other than changing the transparencies of the standard drawings. Additional drawings and/or appropriate coverage in the specifications, shall be used where required to delineate the complete project.

PART II. TYPE STRUCTURES

Structures for which working drawings can be furnished for the information and guidance of the DPWO or the A&E contractor in the preparation of a design for a required facility. Drawings, if generally suitable, may be utilized as contract drawings with suitable minor modifications as required to adapt them to local requirements and site conditions.

PART III. SCHEMATICS, DESIGN CRITERIA, AND DEFINITIVE DRAWINGS

Design sketches, schematics, and criteria which can be furnished for the information and guidance of the DPWO or the A&E contractor for use in the preparation of working drawings for the required facility.

DEPARTMENT OF THE NAVY,
BUREAU OF YARDS AND DOCKS,
Washington 25, D. C., February 19, 1952.

Mr. JOHN J. DONNELLY, Esq.
Counsel, Subcommittee on Military Construction,
Committee on Appropriations, House of Representatives,
Washington 25, D. C.

DEAR MR. DONNELLY: There is herewith transmitted in accordance with your request one copy each of the letters listed on the enclosure.

You may be assured that any additional data requested will be submitted at the earliest possible date.

With kindest regards,
Sincerely yours,

A. D. HUNTER,
Captain, CEC, United States Navy.

LIST OF LETTERS ENCLOSED

1. BuDocks Circular Letter No. 51–5, January 15, 1951, Conservation of cement in military construction programs
2. BuDocks Circular Letter No. 51–14, March 8, 1951, Offer of services by the Portland Cement Association
3. BuDocks Circular Letter No. 51–22, April 12, 1951, Conservation of materials—construction
4. BuDocks Circular Letter No. 51–26, April 26, 1951, Conservation of material—hog bristles
5. BuDocks Circular Letter No. 51–37, May 11, 1951, Rehabilitation of inactive stations
6. Chief of Naval Material letter, June 6, 1951, Conservation of chromium, cobalt, columbium, molybdenum, nickel and tungsten

7. BuDocks Circular Letter No. 51–49, July 20, 1951, Teflon (polytetrafluoroethylene resin), conservation of
8. Chief, BuDocks letter, October 19, 1951, Elimination of procurement delays in the construction program
9. Chief, BuDocks letter, December 6, 1951, Beryllium, conservation of
10. Chief of Naval Material letter, December 28, 1951, Conservation of cobalt, copper, molybdenum, nickel and tungsten
11. Chief, BuDocks letter, January 5, 1952, Controlled materials plan—information concerning program for conservation of critical materials
12. Chief, BuDocks letter, January 11, 1952, Controlled materials plan—general information
13. Chief of Naval Material letter, January 19, 1952, Nickel and stainless steel, conservation of (availability of chrome stainless steel).
14. Chief of Naval Material letter, January 30, 1952, Conservation and utilization of material resources

DEPARTMENT OF THE NAVY,
BUREAU OF YARDS AND DOCKS,
Washington, D. C., January 15, 1951.

CIRCULAR LETTER NO. 51–5

From: Chief, Bureau of Yards and Docks.
To: Addressees indicated below.
Subject: Conservation of cement in military construction programs.
References: (*a*) Addendum No. 1A, specification No. 3Yb, standards of design for concrete.
(*b*) Addendum No. 1, specification No. 13Yc, concrete construction.
Enclosure: (1) Conservation measures of cement approved by the Munitions Board on December 14, 1950.

1. The addressees shall take all necessary action to assure that the conservation measures of cement covered in enclosure (1) and all other practical methods of conserving cement in military construction projects are used.

* * * * * * *

A. D. HUNTER,
Deputy and Assistant Chief of Bureau.

Distribution: BuDocks Cirlet Dist. List.

CONSERVATION OF CEMENT

Conservation measures of cement shall be as follows:

1. Specifications of the construction agencies of the Department of Defense shall be revised to permit the use wherever feasible of cement blends and/or puzzolanic materials in concrete mix.
2. Specifications of the construction agencies of the Department of Defense shall be revised to permit the use of all natural cements where feasible.
3. Specifications of the construction agencies of the Department of Defense will require minimum cement usage to meet the requirement for strength, durability, density and other essential characteristics as imposed by field conditions.
4. Designs of concrete batches will be such as to yield realistic minimum strength.
5. The size of concrete structural members will be limited to realistic minimum dimensions.
6. Design of roads, airfields, parking areas, etc., will continue to stress the use of local available materials, other than concrete, for base courses.

DEPARTMENT OF THE NAVY
BUREAU OF YARDS AND DOCKS,
Washington, D. C., April 12, 1951.

CIRCULAR LETTER NO. 51–22

From: Chief, Bureau of Yards and Docks.
To: Addressees indicated below.
Subject: Conservation of materials—construction.
Enclosure: (1) NPA orders M2, 7, 8, 12, 14, 19, 24.
(2) List of Department of Commerce field offices.

1. The National Production Authority has issued a number of orders pertaining to the use of several materials which are in short supply. These orders prohibit the use of a considerable number of items normally used in construction.

2. While it may be possible to obtain permission to use prohibited materials and products it will be the policy of the Bureau to avoid the use of such materials and end products except where they are necessary to meet the operational requirements of the facility or except where they are available from commercial fabricated stock without replacement. Requests for permission to use prohibited construction materials must be processed through the Bureau of Yards and Docks to the National Production Authority. Such requests must carry a justification for exception, quantities involved and general contract information.

3. The guiding principle on use of material shall always be to utilize those materials which are most plentiful and which least interfere with the production of combat matériel and the utilization of manpower, transportation, and power.

* * * * * * *

A. D. HUNTER.

DEPARTMENT OF THE NAVY,
BUREAU OF YARDS AND DOCKS,
Washington, D. C., May 11, 1951.

CIRCULAR LETTER NO. 51–37

From: Chief, Bureau of Yards and Docks.
To: Addressees indicated below.
Subject: Rehabilitation of inactive stations.
Enclosure: (1) Publication P–56, Manual for Rehabilitation of Inactive Stations.

1. Enclosure (1) is forwarded for use as a guide in the rehabilitation of inactive stations or parts thereof.

2. The Bureau of Yards and Docks has been designated by the Chief of Naval Material to promulgate the maximum standards, as established by the Munitions Board, to be applied to the reactivation of all facilities and installations not included in the permanent establishment. These maximum standards are given in the preface to enclosure (1), and must be observed in order to assure the minimum use of labor, equipment, and materials.

3. As soon as practicable, this Bureau will issue a list of activities designated as being not permanent. Pending the receipt of that list, any question as to the status of a particular station should be referred to the Bureau of Yards and Docks.

J. F. JELLEY,
Rear Admiral, Civil Engineer Corps, United States Navy,
Chief, Bureau of Yards and Docks.

MANUAL FOR REHABILITATION OF INACTIVE STATIONS (NAVDOCKS P–56), BUREAU OF YARDS AND DOCKS, DEPARTMENT OF THE NAVY, WASHINGTON, D. C., MAY 1951

FOREWORD

The Bureau of Yards and Docks has been designated by the Chief of Naval Material to promulgate the maximum standards, as established by the Munitions Board, to be applied to the reactivation of all facilities and installations not included in the permanent establishment. These maximum standards are given in the preface which follows, and must be observed in order to assure the minimum use of labor, equipment, and materials.

As soon as practicable, this Bureau will issue a list of activities designated as being not permanent. Pending the receipt of that list, any question as to the status of a particular station should be referred to the Bureau of Yards and Docks.

This manual has been promulgated by Bureau of Yards and Docks Circular Letter 51–37.

J. F. JELLEY,
Rear Admiral (CEC), United States Navy,
Chief, Bureau of Yards and Docks.

MAY 11, 1951.

PREFACE

Permanent establishment

This manual is intended for use as a guide in connection with rehabilitation of inactive stations of the permanent establishment.

Establishments other than permanent

The Munitions Board by memorandum MBPCO 600.1 for the Secretaries of the Army, the Navy, and the Air Force of September 21, 1950, directed that the maximum standards for rehabilitation of inactive installations for immediate mobilization as approved by the Management Committee on August 18, 1950, be

used in order to assure the minimum use of labor, equipment, and material, and that the standards be applied to the reactivation of all facilities and installations not included in the "permanent establishment." By memorandum MBPFC for the Secretaries of the Army, the Navy, and the Air Force of March 1, 1951, the maximum standards were amended. This manual may be used in the rehabilitation of establishments other than permanent insofar as the amended maximum standards permit. The amended maximum standards are as follows:

MAXIMUM STANDARDS FOR REHABILITATION OF INACTIVE INSTALLATIONS FOR IMMEDIATE MOBILIZATION

General

1. Rehabilitation of inactive installations shall be so limited and conducted as to require the least possible man-hours, equipment and materials to enable the use of the facility at the earliest possible date.

DEPARTMENT OF THE NAVY,
BUREAU OF YARDS AND DOCKS,
Washington, D. C., October 19, 1951.

From: Chief, Bureau of Yards and Docks.
To: District Public Works Officers.
Subject: Elimination of procurement delays in the construction program.

1. Some concern has been expressed by higher authority that procurement delays affecting the Navy's defense programs are not being sufficiently anticipated and eliminated. The purpose of this letter is to indicate various measures which can be taken to minimize the effect of production delays on the Navy's construction program.

2. The rapidly increasing demands of military-procurement programs will increase the number of items in short supply and will tend to hamper efforts to complete the construction of facilities at an early date.

3. It is suggested that those portions of projects in which separable units may require long lead-time items such as structural steel, transformers, electrical switch gear, and the like, be given preference in design so that contracts for their construction or purchase may be consummated at an early date. Lists of materials requiring CMP action should be compiled at the earliest date when sufficiently detailed and accurate information becomes available and whenever feasible before final completion of drawings and specifications. Due to quarterly scheduling, a delay of 1 day in submitting a requirement may result in a loss of 3 months in delivery time.

4. Design organizations must be alert to the restrictions in use of various materials and end products as delineated by M orders and other directives of the National Production Authority. Substitute materials should be used to the maximum extent compatible with the purpose and permanence of the facility being designed.

* * * * * * *

6. Contractors should be advised to indicate material delivery delays, either anticipated or actual, at the earliest possible date, so that corrective action may be initiated immediately. Data required by existing instructions should be complete so as to avoid delay.

7. During the planning and design phases, the Bureau should be informed of any anticipated delays in the completion of urgent construction projects and the causes thereof. In this way the Bureau can initiate action, at the earliest possible date, to minimize the effect of the anticipated delay.

MARTIN W. KEHART
(By direction).

Information copies: SNDL N–1, N–6, N–7 BuDocks List X–2.

DEPARTMENT OF THE NAVY,
OFFICE OF NAVAL MATERIAL,
Washington, D. C., December 28, 1951.

ONM INSTRUCTION 4890.1

From: Chief of Naval Material.
To: Commandant, of the Marine Corps, Commandant of the Coast Guard, Chief, Bureau of Yards and Docks, Chief, Bureau of Ordnance, Chief, Bureau of Ships, Chief, Bureau of Supplies and Accounts, Chief, Bureau of Medicine and Surgery, Chief, Bureau of Aeronautics.
Subject: Conservation of cobalt, copper, molybdenum, nickel, and tungsten.

Reference: (*a*) ONM ltr M421A ELB/bek of June 6, 1951, re conservation of chromium, cobalt, columbium, molybdenum, nickel, and tungsten, (*b*) presentation by RAdm. Nibecker re supply and demand of certain materials at AstSecNav BuChiefs' mtg of December 17, 1951.

1. *Purpose.*—The purpose of this instruction is to advise that by reference (*a*) addressees were requested to initiate a program to study all equipments and components utilizing alloy steels to determine where less critical alloying materials can be substituted; also, to determine whether alloy steels containing smaller amounts of alloying materials can be utilized.

2. *Scope.*—On May 29, 1951, at a meeting attended by Bureaus' representatives, a discussion was held pertaining to the need to conserve the critical materials covered by reference (*a*). To the list of materials contained in reference (*a*), copper is to be added. The substitutions of aluminum for copper in battery cables and in wire and bus bars for use in naval shore establishments are examples of conservation programs that should be pursued and adopted immediately.

3. Reference (*b*) specifically indicated the importance of conserving cobalt, copper, molybdenum, nickel, and tungsten. From the supply-demand picture and the ever-increasing demand for cobalt, copper, molybdenum, nickel, and tungsten by the Department of Defense, it is quite evident, if military and essential civilian requirements are to be met, that greater effort than heretofore must be exerted to substitute noncritical or less critical materials for these materials.

4. *Reports.*—Addressees are, therefore, requested to submit quarterly the progress made in this conservation program. The first report for the period of January 1, 1952, to March 31, 1952, is due on April 15, 1952.

R. M. Watt, Jr.,
Assistant Chief of Naval Material (Production).

Copy to: CNO, BuPers, ONR, Op–04C, Op–40, MB.
Authenticated:

L. C. Geddes,
Issuance Control Officer.

Department of the Navy,
Bureau of Yards and Docks,
Washington, D. C., January 5, 1952.

From: Chief, Bureau of Yards and Docks.
To: Addressees indicated below.
Subject: Controlled materials plan—information concerning program for conservation of critical materials.
Reference: (*a*) BuDocks Circular Letter 51–22.

1. As the construction and procurement programs of the Department of Defense advance into the current year, shortages of critical materials will become more acute. It is imperative that all elements within the Department of Defense make every reasonable effort to conserve critical materials by eliminating their use where possible, or by substitution of a less critical material for the more critical.

2. The problem of conservation is complex. It is never static. Material now critical may become surplus, or material now in plentiful supply may become short in the future. It will be necessary for the Bureau to issue letters of instruction from time to time.

3. As a general policy for construction and procurement programs, use of copper, high alloy steels, and aluminum should be restricted insofar as is practical. Reference (*a*) may be used as a guide.

4. The Office of Naval Material has established a quarterly progress report for the conservation program. A report to the Bureau by directors, district public works officers, and specified officers in charge of construction will be required by March 31, 1952. Detailed instructions as to methods of conservation and reporting will be given by Bureau circular letter now under preparation.

H. W. Risteen
(By direction).

Department of the Navy,
Bureau of Yards and Docks,
Washington, D. C., January 11, 1952.

From: Chief, Bureau of Yards and Docks
To: Addressees indicated below
Subject: Controlled material plan—general information
Reference: (*a*) BuDocks Circular Letter 51–50 of 20 July 1951

* * * * * * *

3. In connection with conservation of critical materials, Issue No. 4 of "List of Basic Materials and Alternates," as compiled by NPA may now be had at district and regional offices of the Department of Commerce.

4. Addressees are reminded in connection with requests by contractors for Bureau expediting help that the Bureau assumes no responsibility for additional costs to the contractor which may result from the expediting action. Often in the case of steel, to improve delivery, it is necessary to switch orders from one mill to another at a higher price. If the contractor accepts the alternate source of supply, he must absorb any additional costs. In the present emergency, difficulty in obtaining material is a factor normally contemplated at the time of the bid. The contractor is assumed to benefit, in that he is saved loss by minimizing the delay through the expediting action.

5. Representatives of the steel industry advise that there is a shortage of wide flange shapes. Standard shapes should be used where possible. Universal plate should be used in lieu of shear plate. Avoid use of silicon hot top. Present supply of silicon hot top is required in ship construction and other high priority uses.

* * * * * * *

T. WARD
(By direction).

JANUARY 19, 1952.

ONM INSTRUCTION 4890.2

From: Chief of Naval Material
To: Commandant of the Marine Corps
Commandant of the Coast Guard
Chief, Bureau of Yards and Docks
Chief, Bureau of Ordnance
Chief, Bureau of Ships
Chief, Bureau of Supplies and Accounts
Chief, Bureau of Medicine and Surgery
Chief, Bureau of Aeronautics

Subject: Nickel and stainless steel, conservation of (availability of chrome stainless steel)

1. *Purpose.*—The purpose of this instruction is to advise the addressees of the availability of production facilities for the manufacture of 37,000 tons per month of chrome stainless steel.

2. *General.*—The shortage of nickel has resulted in the curtailment of various 18 percent chromium—8 percent nickel stainless steel production activities. In some cases, it has resulted in the closing of some mills and the layoff of employees. It has also resulted in curtailment of some Navy programs.

3. Chrome stainless steels containing about 14 percent chromium, can in some instances be substituted for the 18 percent chromium—8 percent nickel stainless steels. Wherever this can be done, it is requested that this substitution be made immediately.

R. M. WATT, Jr.,
Assistant Chief of Naval Material (Production).

Authenticated:

J. W. GRAHAM,
Director, Administrative Division.

DEPARTMENT OF THE NAVY,
OFFICE OF THE SECRETARY,
Washington, January 30, 1952.

From: The Secretary of the Navy.
To: All Bureaus and Offices, Commandant of the Marine Corps, Commander, Military Sea Transportation Service, Commandants, all Naval Districts and River Commands, All Ships and Stations (via Navy Department Bulletin).
Subject: Conservation and Utilization of Material Resources.

1. Subsequent to the outbreak of the Korean war, numerous directives have been issued emphasizing the need for material conservation. Although much has been accomplished in the conservation of material within the Navy, the importance of such a program warrants its continued emphasis and requires Navy-wide direction, coordination, and continuous review.

2. World War II was the last "war of plenty" that this Nation is capable of supporting. The demands on our national economy for scarce materials, both for

military and civilian use, make it essential that, as more and more of our material resources are diverted into war goods production, all personnel in the Navy become conservation-minded. The advances made in design and performance of military equipment since World War II have resulted in increased requirements for many critical materials, and the availability of materials is one of the limiting factors facing an expanded defense production program. Our material resources were severely affected by the demands of World War II. Therefore, it is of utmost importance that definite and continuing action be taken to conserve materials now available.

3. It is recognized that commendable progress has been made in certain areas by various bureaus and offices. However, it has become apparent that if the Navy is to obtain maximum effectiveness from this program the efforts of the bureaus, offices, Military Sea Transportation Service, and Marine Corps, should be coordinated. Accordingly, the Chief of Naval Material is assigned the responsibility for establishing policies governing a Navy-wide conservation and utilization program and to coordinate the action of the bureaus, offices, Marine Corps, and Military Sea Transportation Service in the implementation of this program.

4. The objectives of this program are to develop through the naval service—

(*a*) "Material consciousness" on the part of each individual.

(*b*) Foster the utmost economy in the use of material, and

(*c*) The use of substitute materials to the maximum extent possible.

5. The Chief of Naval Material will submit quarterly reports to the Secretary, outlining progress and accomplishments of this program. The first report will be due on April 15, 1952, covering the period January 1–March 31.

DAN A. KIMBALL.

Authenticated:

J. W. GRAHAM,
LCDR, SC, USN.

CONTRACTORS INVITED TO BID ON MEMPHIS, TENN., PROJECT

The list of contractors invited by the Navy to bid on the Memphis job, referred to on page 22 of the hearings, is as follows:

29414. MEMPHIS, TENN., NAVAL AIR STATION, CONSTRUCT BARRACKS, MESS HALL AND TRAINING BUILDING

Sealed bids, endorsed "Bids for Construction of Barracks, Mess Hall and Training Building, Specification No. 29414" will be received until 2 p. m., eastern standard time, Friday, June 15, 1951, at District Public Works Office, Post Office Box 365, Building 12, Naval Base, South Carolina, and then and there publicly opened for constructing a two-story barracks building and a one-story mess hall building, both of reinforced concrete frame construction, supported on reinforced concrete foundations; constructing a training building consisting of four parts: a classroom unit, two shop units, and a hangar. The classroom section will be reinforced concrete frame construction with reinforced concrete foundation. The hangar and shops will be structural steel frame, open web joists and truss construction with reinforced concrete foundations. The work includes earthwork, demolition, brick and tile masonry, cast stone work, concrete work, carpentry and joinery, roofing, roof insulation, acoustical tile, glazing, terrazo and ceramic tile, asphalt tile, hardware, plumbing, heating, electrical work, field painting and galley equipment. Specification No. 29414 and other bidding information may be obtained on application to District Public Works Officer, Post Office Box 365, Naval Base, South Carolina. Deposit of check for $110, payable to Treasurer of the United States, is required as security for safe return of each set of bidding data.

J. F. JELLEY,
Rear Admiral (CEC), United States Navy,
Chief of Bureau.

MAY 15, 1951.

McCann Construction Co., Post Office Box 2079, Fort Worth, Tex.
Quisle Construction Co., 905 First National Bank Building, Fort Worth, Tex.
Friedman Construction Co., 1510 West Tenth Street, Forth Worth, Tex.
Henry C. Beck Co., sixth floor, First National Bank Building, Dallas, Tex.
Robert E. McKee General Contractor, Inc., Post Office Box 2848, Dallas, Tex.
T. C. Bateson Construction Co., Irwin-Keasler Building, Dallas, Tex.

J. W. Bateson, general contractor, Irwin-Keasler Building, Dallas, Tex.
A. J. Rife Construction Co., Post Office Box 7086, Dallas, Tex.
Nathan Wohlfeld, contractor, Post Office Box 7084, Dallas, Tex.
Farnsworth & Chambers Co., Inc., 3018 Leeland St., Houston, Tex.
W. S. Bellows Construction Co., 716 North Everton, Houston, Tex.
Thomas Bate & Sons, 1107 Girard, Houston, Tex.
Tellepsen Construction Co., 1710 Telephone, Houston, Tex.
B. E. Buffaloe Builder, 884 Adams, Memphis, Tenn.
Building Constructors, Inc., 524 Dermon Building, Memphis, Tenn.
Clark & Fay Builders, Inc., 4920 Poplar, Memphis, Tenn.
Consolidated Contractors, 1489 Thomas Street, Memphis, Tenn.
R. F. Creson & Co., 741 South Cox Street, Memphis, Tenn.
Dougherty-Liddell Construction Co., 1360 East McLemore, Memphis, Tenn.
Foster & Creighton Co., Post Office Box 186, Crosstown Station, Memphis, Tenn.
Seth E. Gliem & Association, 801 Roland Street, Memphis, Tenn.
P. W. Jameson Costruction Co., 611 North Holmes Street, Memphis, Tenn.
Johnson-Hearn Construction Co., 601 Mobile Avenue, Jackson, Tenn.
E. O. Korsmo Construction Co., 74 Porter Building, Memphis, Tenn.
Lashlee-Rich Co., Inc., 1100 Main Street, Humboldt, Tenn.
L & M Construction Co., 843 Vance Street, Memphis, Tenn.
Lee Construction Co., Oakville, Tenn.
Frank H. Lee & Co., 217 Bond Street, West, Memphis, Tenn.
C. E. McCrory Construction Co., 2948 Summer Street, Memphis, Tenn.
McNeese Construction Co., 644 Commerce Title Building, Memphis, Tenn.
Sam P. Maury Construction Co., 554 Adams Street, Memphis, Tenn.
E. W. G. Meers Construction Co., 166 Monroe Avenue, Memphis, Tenn.
Mississippi Valley Engineering & Construction Co., 736 Alabama, Memphis, Tenn.
F. C. Mount Construction Co., 459 Poplar Street, Jackson, Tenn.
Hubert M. Owen Construction Co., Inc., 373 North Cumberland Street, Jackson, Tenn.
L. D. Powell Construction Co., 520 Falls Building, Memphis, Tenn.
S & W Construction Co., Inc., 983 Shrine Building, Memphis, Tenn.
W. L. Sharpe Contracting Co., 2074 York Avenue, Memphis, Tenn.
Brantley P. Smith Co., 310 East Orleans, Jackson, Tenn.
Tri-State Construction Co., 1303 Three Sisters Building, Memphis, Tenn.
Harold Turner, 223 Baltimore Building, Memphis, Tenn.
Wessell Construction Co., 388 North Front Street, Memphis, Tenn.
W. A. Whitsitt Construction Co., 795 Walnut Street, Memphis, Tenn.
Zaret Construction Corp., 1901 West Avenue, Miami Beach, Fla.
Joseph Skilken & Co., 44 East Broad Street, Columbus 15, Ohio.
Hayes Construction Co., 2324 Newcastle Street, Post Office Box 498, Brunswick, Ga.
B & R Material Co., Inc., 3709 Third Avenue South, Birmingham, Ala.
Maxon Construction Co., Inc., 131 North Ludlow Street, Dayton 2, Ohio.
R. E. Clarson, Inc., Post Office Box 1748, Tampa, Fla.
Clyde J. Keys, 20 Eleventh Street South, St. Petersburg, Fla.
Arthur Perry, Inc., 1746 East Adams Street, Jacksonville 1, Fla.
Walker-Lewis Construction Co., 58 Saint Francis Street, Mobile, Ala.
J. S. Walton & Co., Post Office Box 863, Mobile, Ala.
Sullivan, Long & Hagerty, 2026 Second Avenue, Bessemer, Ala.
James H. Small Construction Co., Box 721, Mobile, Ala.
The Rust Engineering Co., Post Office Box 187, Magazine Point, Mobile, Ala.
Foster & Creighton, Post Office Box 227, Mobile, Ala.
Algernon Blair, Post Office Box 749, Montgomery 2, Ala.
Butler & Cobb Construction Co., 1255 Dauphin Street, Mobile, Ala.
Frank J. Rooney, 5880 Northeast Fourth Avenue, Miami, Fla.
Wey-Leonard Construction Co., 200 Alexander Street NW., Atlanta, Ga.
Wesley & Co., 388 Williams Street NW., Atlanta, Ga.
Thompson & Street Co., Post Office Box 1847, Charlotte 1, N. C.
Sparling Construction Co., Post Office Box 1980, Greensboro, N. C.
Southeastern Construction Co., 301 West Second Street, Charlotte, N. C.
Norman A. Smyth Co., Post Office Box 3232, Charlotte, N. C.
Robinson Brothers Contractors, Inc., 841 Merrimon Avenue, Asheville, N. C.
Wm. Muirhead Construction Co., Inc., Durham, N. C.
McDevitt & Street Co., 505 Builders Building, Charlotte, N. C.
V. P. Loftis Construction Co., Post Office Box 2726, Charlotte 1, N. C.

Laxon Construction Co., Inc., Post Office Box 2114, Charlotte, N. C.
T. A. Loving & Co., General Contractors, Goldsboro, N. C.
King-Hunter, Inc., Post Office Box 2548, Greensboro, N. C.
J. A. Jones Construction Co., 209 West Fourth Street, Charlotte, N. C.
C. M. Heffinger, Kiser Building, 2400 Wilkinson Boulevard, Charlotte, N. C.
Mason Garber, Northeastern Construction, Winston-Salem, N. C.
George R. Goodwin, MCAS, Cherry Point, N. C.
A. H. Guion & Co., Wilkinson Boulevard, Charlotte, N. C.
Goode Construction Corp., Johnston Building, Charlotte, N. C.
Craine & Denbo, Inc., Post Office Box 969, 205 Snow Building, Durham, N. C.
J. L. Coe Construction Co., 508 Builders Building, Post Office Box 1881, Charlotte, N. C.
Charles Angle, Greensboro, N. C.
G. E. Moore Co., Inc., Post Office Box 1069, Greenwood, S. C.
McKoy-Helgerson Co., Inc., Greenville, S. C.
Southern Constr. Co., Inc., Administration Building, Daniel Field, Augusta, Ga.
Daniel Construction Co., Post Office Box 2087, Greenville, S. C.
W. M. Fine, 515 East Main Street, Post Office Box 26, Spartanburg, S. C.
P. W. Cecil, 290 West Henry Street, Post Office Box 80, Spartanburg, S. C.
A. S. Wikstrom, 33 Rector Street, New York City, N. Y.
William Bros., 30 Rockefeller Plaza, New York, N. Y.
Western Contracting Corp., 400 Warneck Building, Sioux City 19, Iowa
Ward Construction Service, Inc., 1601 Washington Street, W., Charleston, W. Va.
Virginia Engineering Co., Twenty-ninth Street at James River, Newport News, Va.
Vanguard Construction Corp., Post Office Box 1894, Norfolk, Va.
United Construction Co., Winona, Minn.
Thompson & Starret Co., 444 Madison Avenue, New York, N. Y.
The Tuller Construction Co., 95 Monmouth Street, Red Bank, N. J.
Texas Eng. & Constr. Co., Inc., Corpus Christi, Tex.
Grattan Tyrrell Co., 200 Drovers Bank Building, Baltimore, Md.
Charles H. Tompkins Co., 907 16th Street NW, Washington, D. C.
Frederick Snare Corp., 233 Broadway, New York 7, N. Y.
L. H. Schlobohm, 1011 Second Street, Hampton, Va.
Raisler Corp., 129 Amsterdam Avenue, New York 23, N. Y.
McLean Contracting Co., 1301–3 Fidelity Building, Baltimore 1, Md.
McCloskey & Co., 1620 Thompson St., Philadelphia, Pa.
F. H. McGraw & Co., First American Bank and Trust Building, Middletown, Ohio
Maxon Construction Co., Inc., 131 North Ludlow Street, Dayton 2, Ohio
Metcalfe Constr. Co., 854 Omaha National Bank Building, Omaha 2, Nebr.
H. A. Kuljian & Co., 1518 Walnut Street, Philadelphia 2, Pa.
Cay & Zimmermann, Inc., Packard Building, Philadelphia 2, Pa.
Carpenter Constr. Co., Bank of Commerce Building, Norfolk 10, Va.
Byrne Organization, Inc., 2607 Connecticut Avenue, Washington 8, D. C.
Adams & Tate Construction Co., Post Office Box 60, Roanoke, Va.
Bailey-Brazell Construction Co., Post Office Box 386, Greenville, S. C.
Wheeler Engineering Co., 369 Lexington Avenue, New York 17, N. Y.
Hicks & Ingle, 112 East Sewell Point Road, Norfolk, Va.
Lloyd E. Mitchell, Riesterstown Road, Baltimore, Md.
Smith-Noonan-Dyson, 806 West Romana Street, Pensacola, Fla.
Merritt-Chapman-Scott Corp., 17 Battery Place, New York, N. Y.
Batson-Cook Co., West Point, Ga.
Blythe Bros. Co., Harrison-Wright Co., Post Office Box 989, Charlotte, N. C.
Dickerson, Inc., Post Office Box 448, Monroe, N. C.
Ewin Engineering Corp., Post Office Box 361, Mobile, Ala.
Hendrickson Brothers, Inc., 63 North Central Avenue, Valley Stream, N. Y.
John A. Johnson & Sons, Inc., 206 Rogers Street NE., Atlanta, Ga.
Mion Construction Co., 377 Techwood Drive NW., Post Office Box 1145, Atlanta, Ga.
AGC of America, Inc., Mezzanine, Sir Walter Raleigh Hotel, Raleigh, N. C.
AGC of America, Inc., Post Office Box 5325, Columbia, S. C.
AGC of America, Inc., 405–9 Builders Building, Charlotte, N. C.
The Atlanta Builders Exchange, 163 Harris Street NW., Atlanta, Ga.
Birmingham Builders Exchange, American Life Building, Birmingham, Ala.
Blue Reports, 2028 I Street NW., Washington, D. C.
Browns Letters, Inc., 101 Park Avenue, New York 17, N. Y.

Central Florida Builders Exchange, 113 East Central Avenue, Orlando, Fla.
Chattanooga Building Exchange, 403 Hamilton Trust Building, Main and Market, Chattanooga, Tenn.
Commercial Agent, Atlantic Coast Line, 134 East Bay Street, Charleston, S. C.
The Dixie Contractor, 508 Luckie Street NW., Atlanta, Ga.
Dodge Reports, 1204 Mortgage Guarantee Building, Atlanta, Ga.
F. W. Dodge Corp., 1032 Hendricks Avenue, Jacksonville 7, Fla.
The Dow Service, Inc., 420 Lexington Avenue, New York 17, N. Y.
Eastern Construction Service, 3611 Ednor Road, Baltimore 18, Md.
Engineering News Record, 2850 Laviere Street, Jacksonville 5, Fla.
U. S. Government Advertiser, 511 Eleventh Street NW., Washington 4, D. C.
U. S. Guarantee Co., 1100 Shoreham Building, Washington, D. C.
Knoxville Builders Exchange, 511 West Church Street, Knoxville, Tenn.
Thomas P. Lipscomb, F. W. Dodge Corp., 305 American Building, Savannah, Ga.
Manufacturers Record Publishing Co., Baltimore 3, Md.
Pinellas County Builders Exchange, Post Office Box 203, St. Petersburg, Fla.
Service Bureau, National Surety Corp., 413 Woodward Building, Washington, D. C.
Tampa Builders Exchange, Chamber of Commerce Building, Tampa, Fla.
Mr. Theodore Maybank, Post Office Box 475, Charleston, S. C.
Mr. C. D. Tidwell, F. W. Dodge Corp., Post Office Box 362, Columbia, S. C.
Miami Builders Exchange, 46 Northeast Sixth Street, Post Office Box 2017, Miami, Fla.

Budocks, Buaer, Dce, Dpio, Roince Nas, Memphis, Tenn., BullBd. Postmasters: Memphis, Tenn.; Nashville, Tenn.; New Orleans, La.; Atlanta, Ga.; Knoxville, Tenn.; Chattanooga, Tenn.; Birmingham, Ala.; Charlotte, N. C.; Jacksonville, Fla.

Chronological Account of Important Actions Relative To Reactivation of NTC, Bainbridge, Md.

The subcommittee gave considerable attention to the use of the cost-plus-fixed-fee contract for rehabilitation work of the United States Naval Training Center at Bainbridge, Md., in 1950–51, an operation involving $18,000,000. As indicated on page 158 of the hearings, a chronological account of the development and performance of this contract is printed as follows:

February 11, 1952.

Chronological Account[1] of the Important Actions Relative to the Reactivation of NTC, Bainbridge

Date of action or correspondence, and action

August 29, 1950: Anticipating early approval for reactivating Bainbridge, BuPers requested representatives of BuDocks to inspect the center and make a cost estimate for the rehabilitation. This inspection was made on August 29, 1950, in connection with the possible use of a part of Bainbridge for WAVES training. As result of the survey conducted by BuDocks representatives, an estimate for complete construction rehabilitation of the entire center was started.

September 19, 1950: BuPers requested COM5 to prepare an estimate for complete rehabilitation of center.

October 20, 1950: BuDocks estimate for rehabilitating entire center in amount of $15,202,000 prepared by Cost Estimating Section, C–337.

October 27, 1950: In compliance with BuPers' request of September 19, COM5 submitted estimate for complete rehabilitation of Bainbridge. This estimate was for $9,105,726 and included replacement of all interior hot-water lines. Cost of collateral was not included in this estimate.

[1] Furnished by Bureau of Yards and Docks.

October 31, 1950: BuPers advised BuDocks that an amount of $15,000,000 for rehabilitating Bainbridge had been included in the third supplement, 1951, bill. This amount included collateral and was based on a BuPers estimate derived from certain unofficial estimates and data furnished by BuDocks. BuPers also pointed out necessity for speedy action on rehabilitation work, and requested BuDocks to advise BuPers on procedures that may be utilized to have the center ready to accommodate 10,000 recruits by July 1, 1951.

November 8–9, 1950: BuDocks investigating possibility of accomplishing rehabilitation by lump-sum contract using plans and specifications prepared by private A. & E. firms, called in four A. & E. firms for interview. Interviews held, but no selection was made.

November 1950: Bureau continued studies of lump-sum contract versus CPFF contract. Decision finally made on December 8, 1950, to accomplish rehabilitation by CPFF contract without use of detailed plans by private A. & E. BuDocks advised BuPers by letter of December 8, 1950.

December 19–20, 1950: To select contractor for rehabilitation, Bureau called in seven construction firms for interview. All of these firms were from the Washington-Baltimore area.

December 26, 1950: After carefully considering each firm individually concerning its qualifications to handle a CPFF construction contract of the magnitude required at Bainbridge, the Bureau's Board of Contract Awards selected the Consolidated Engineering Co. of Baltimore as best qualified for the work. The Chief approved this selection. Consolidated notified of award and advised that the Board would interview them again to discuss and determine the fee.

December 1950: BuPers continued hearings on financing the reactivation of Bainbridge, and was finally given approval for the funds ($11,578,000) in the second supplemental appropriation bill.

January 5, 1951: BuPers advised BuDocks that $8,228,000 would be allotted for the CPFF contract rehabilitation work at Bainbridge, and authorized the Bureau to proceed with the work.

January 8, 1951: BuMed advised BuDocks that $1,211,000 would be allotted for the contract work to cover the cost of rehabilitating the BuMed facilities.

January 9, 1951: OICC designated; contractual data issued.

January 10, 1951: Letter of Intent signed by contractor, which authorized contractor to proceed and to submit a new detailed cost estimate.

January 15, 1951: Contractor moved on the site and set up contract office. Contractor started immediately to prepare detailed engineering estimate of the cost of the rehabilitation work.

January 24, 1951: SecNav established NTC Bainbridge effective January 15, 1951.

February 1, 1951: Naval Training Center, Brainbridge, Md. officially commissioned.

February 8, 1951: Contractor, in compliance with OICC request, submitted detailed cost estimate for rehabilitation work. This new estimate for complete construction rehabilitation amounted to $16,666,707, exclusive of fees.

March 7, 1951: Board of Contract Awards met with contractor and established fees for General Contractor, and Mechanical, Electrical and Painting subcontractors.

March 12, 1951: BuPers requested from Assistant Comptroller, OB&R, additional funds for rehabilitation in amount of $7,761,400. This request superseded request of February 23, 1951.

March 15, 1951: Hospital at Bainbridge commissioned.

April 2, 1951: BuPers verbally authorized BuDocks to direct contractor to rehabilitate buildings in group 2. This was based on assurance that additional funds would be made available for Bainbridge for further rehabilitation work.

Allotments issued for construction

Jan. 9, 1951, BuPers original	$7, 228, 000
Jan. 9, 1951, BuMed original	1, 211, 000
Apr. 10, 1951, BuPers change "A"	110, 000
Apr. 10, 1951, BuMed additional funds	411, 000
May 8, 1951, BuPers additional funds	13, 000
May 16, 1951, BuDocks change "B" additional funds	100, 000
June 4, 1951, BuMed change "C"	49, 340
June 12, 1951, BuPers change "B"	1, 155, 400
June 13, 1951, BuPers additional funds	8, 000, 000
June 26, 1951, BuPers change "F"	296, 700
June 29, 1951, BuMed additional funds	75, 000
Aug. 3, 1951, BuMed change "G"	21, 800
Oct. 25, 1951, naval working fund change "H"	10, 000
Total	18, 681, 240
Reserved	250, 000
Total for construction	18, 431, 246
Feb. 5, 1951, contractor authorized to proceed with additional miscellaneous items of work pending determination by Bureau of change in scope and fee. Approximate estimated cost excluding fee and chargeable to available funds	175, 393

Contract NOy–24565, Bainbridge, Md., at Jan. 29, 1952

Estimated cost per basic contract (including fee but exeluding change orders)	$17, 411, 138
Total fee in basic contract	$346, 000
Fee percentage in basic contract	2. 03
Funds available to date:	
Construction:	
BuPers	$16, 803, 100
BuMed	1, 768, 140
BuDocks	100, 000
BuPers (naval working fund)	10, 000
Total construction	18, 681, 240
Procurement: BuPers (operational equipment)	650, 000
Total funds available	19, 331, 240
Total cost to date:	
Construction	14, 593, 739
Procurement	644, 446
Total	15, 238, 185
Total overtime cost to date	8, 653
Total fee payment to date	337, 997
Fee payments to date to total cost (including fee) to date_percent	2. 218
Fee payments to date to total cost (less fee) to date_____do____	2. 268
Overtime payments to date to total cost to date_____do____	. 0568

NOy–24565, basic contract, change order and fees, Feb. 11, 1952

		Estimated cost	Prime fee	Percent
Basic contract	General rehabilitation	$16,411,038	$341,000	2.12
Change orders date	*Description*			
May 3, 1951	Change A—project 3 install cubicles	110,000	2,280	2.12
June 14, 1951	Change B—appropriation increase $100,000			
June 20, 1951	Change C—project 4 dental school	49,340	1,020	2.11
June 26, 1951	Change D—project 2 reduction in procurement of operational equipment from $1,000,000 to $650,000 (fee reduction $1,750—0.050 percent)			
July 7, 1951	Change E—project 5 miscellaneous work	1,155,400	23,300	2.06
Aug. 10, 1951	Change F—project 6 and 7 class A schools	296,700	6,000	2.06
Sept. 11, 1951	Change G—project 8 dental school	21,800	440	2.06
Dec. 7, 1951	Change H—project 9 officers mess	10,000	200	2.04
	Change I—project 1A miscellaneous work-Waves	616,965	12,275	2.03
	Total increase contract scope	2,260,205	45,515	

Over-all fee 2.06 percent.

Subcontract fees, NOy–24565, Feb. 11, 1952

	Blumenthal-Kahn electrical subcontractor	Mitchell mechanical subcontractor (roofing)	Painting subcontractor
Basic contract	$30,450	$100,213	$10,000
Projects:			
1–A	4,150	2,300	
3	98		
4	370	350	
5	6,942	3,055	
6	1,266	309	
7	648		
8	154	295	
9	28	43	
Total fees	44,106	106,565	10,000

Data on Contract and Change Order for Naval Air Station, Jacksonville, Fla.

The data relative to the cost-plus-fixed-fee contract at Jacksonville, and the change order which added new construction thereto, is printed herewith as indicated at page 163 of the hearings, as follows:

[Code DB-400]

September 28, 1951.

Information Submitted by the DPWO and DOINCC 6ND[1] to the House Investigation Committee

* * * A cost-plus-fixed-fee contract is now in operation under the cognizance of the district officer in charge of construction, Sixth Naval District. This type of contract is being used in this instance to accomplish rehabilitation work at the Naval Air Technical Training Center, Naval Air Station, Jacksonville, Fla. Since it was necessary to accomplish the work within a limited time and the items to be accomplished to rehabilitate the site were not those lending themselves readily to description necessary for lump-sum bidding, the method of a cost-plus-fixed-fee contract was used for this work.

[1] These symbols identify the district public-works officer and district officer in charge of construction for the Sixth Naval District.

In late December 1950, it was determined that extensive rehabilitation work should be accomplished at the Naval Air Technical Training Center, Naval Air Station, Jacksonville, Fla. The work to be accomplished at this site was of such nature and had to be accomplished in a limited amount of time, which facts would not allow the preparation of drawings and specifications necessary for the work to be adequately described and advertised to general contracting firms to bid the work on a lump-sum basis. Therefore, it was determined that a cost-plus-fixed-fee contract, which has been designated as NOy-24357, should be entered into for the accomplishment of the desired work. A review board was appointed on December 26, 1950, by Capt. W. T. Eckberg, Civil Engineer Corps, United States Navy, district public-works officer, Sixth Naval District, on which Captain Eckberg was the senior member. The board convened in Jacksonville, Fla., and considered seven contracting firms, of which the following five organizations were interviewed on December 26–27 for the purpose of selecting a suitable contractor to do the cost-plus-fixed-fee work:

Batson-Cook Co., West Point, Ga.
S. S. Jacobs Co., Jacksonville, Fla.
The George D. Auchter Co., Jacksonville, Fla.
Ivy H. Smith Co., Jacksonville, Fla.
Paul Smith Construction Co., Tampa, Fla.

After completion of interviews with the above-mentioned five companies, the board recommended to the Bureau of Yards and Docks that the George D. Auchter Co. of Jacksonville, Fla., be selected, based on this company's ability to handle a large volume of work, being entirely equipped to complete the project and having on hand a considerable stock of building material available for immediate use.

The Bureau of Yards and Docks concurred in this recommendation and the George D. Auchter Co. was selected. The initial contract was for eight projects in a gross dollar value of $1,377,730, which included a fee of $44,280 (3.2 percent). The projects were as follows:

Project number and description	*Estimated cost, including fixed fee*
1. Rehabilitation of buildings, utilities and distribution systems (including $58,000 for collateral equipment)	$1, 109, 730
2. Ramp space for parking 50 planes (10,000 square yards)	50, 000
3. Fire mat (1,000 square yards)	5, 000
4. Malfunctioning range (1,500 square feet)	30, 000
5. 2 general storage buildings (approximately 12,500 square feet each)	100, 000
6. Heavy-equipment shops' stores building (8,000 square feet)	48, 000
7. Heavy-equipment shop building (approximately 6,000 square feet)	30, 000
8. Automobile parking areas	5, 000
Total	1, 377, 730

Shortly after commencing the work of this contract, the prime contractor found that it would be desirable to subcontract the mechanical work in connection with the project and consequently in conjunction with the resident officer in charge of construction suggested a board on changes, which was appointed by the district officer in charge of construction, Sixth Naval District, which board negotiated with and selected the subcontracting firm for this work. Two firms were interviewed, Henley & Beckwith Co., and the Henry G. Dupree Co., both of Jacksonville, Fla., which interview resulted in the selection of Henly & Beckwith Co. to accomplish the mechanical work. This firm was selected based on the experience and organization of the company and the fact that this concern was immediately available to proceed with the work to be accomplished. This basic contract was in the amount of $191,290, including the fee and subsequently increased by a change order to a total amount of $254,290, of which total $9,660 represented the fee. Several lump-sum contracts were entered into by the prime contractor on this project under purchase-order procedures, records of which are not shown in the files of this office, but on which information may be obtained by contacting the resident officer in charge of construction of this project at Naval Air Station, Jacksonville, Fla. During the course of this contract, it was determined that an aircraft maintenance building, which was part of the original project, could be constructed with funds which were now available but not available at the time the contract was originally commenced. Consequently, by change B to this contract, project 9 in the amount of $500,000 was established, and at this time

change C is in the state of preparation which adds an additional wing to this same building, the cost of which will be $212,000, including fee. Change A was issued to the contract, by which change order the total contract price was decreased $40,000, which amount was originally to be spent for the purchase of collateral equipment and which, during the course of the contract, was found could be purchased more advantageously by the Government than through the contractor. By this manner, the contract original sum of $1,377,730 has been increased by $712,000 and decreased by $40,000, leaving a net total of $2,049,730, of which $64,180 is fee (3.13 percent).

Numerous small tools have been purchased on this project by purchase orders, which tools, upon receipt, were identified and marked in order to assure that they would not be misplaced and would ultimately be left with the Government as its property. Less than 12 pieces of equipment have been rented on this project fom the contractor or third party, and of those pieces rented, the largest has been a 1½-ton dump truck. Record of all such rentals has been kept on equipment record cards.

While the records in this office have no definite statement in regard to whether or not there has been any loafing on this project, or whether or not the forces have been reduced immediately upon completion of the work for which those persons were hired, all evidence is to the fact that no excess time was allowed personnel for other than the accomplishment of assigned duties, and the costs of the work were such that it was obvious that reduction in force took place immediately upon accomplishment of the work to which personnel had been assigned.

In general, the field administration of this CPFF contract has been exceptionally good. During the course of this contract, all laborers and mechanics were granted a 5-percent increase in pay in accordance with rules and regulations of the Wage Stabilization Board, and subsequently, to that general increase in wage payments to all mechanics and laborers, steamfitters and their helpers were granted a 5-percent increase, again in accordance with the regulations of the Wage Stabilization Board. Such increases were allowed in view of the fact that living costs increased during the time the contract has been in force.

OFFICE OF RESIDENT OFFICER-IN-CHARGE OF CONSTRUCTION, UNITED STATES NAVAL AIR STATION, JACKSONVILLE, FLA.

REASONS FOR CONSTRUCTION OF BUILDING NO. 200, FASRON JET ENGINE MAINTENANCE SHOP, BY CPFF CONTRACT CHANGE ORDER

A change order was issued to the George D. Auchter Co. under Contract NOy–24357, cost plus-a-fixed-fee contract, in order to facilitate construction of the Fleet Air Service Squadron Jet Engine Maintenance Shop. This building was considered essential to continued and efficient operation of jet aircraft, and was required at the earliest date possible. Space previously used for jet-engine maintenance was Building No. 621 required by the Naval Air Technical Training Command. Building No. 621 was ordered to be turned over to the Training Command on August 1, 1951, by a decision of the Chief of Naval Operations.

The plans and specifications prepared by the firm of Kemp, Bunch & Jackson, architects and engineers, were not completed for lump-sum bidding at the time it was considered necessary to place orders for materials in order to complete construction in a reasonable period. Certain critical materials such as steel, copper, etc., could be placed on order at once under the CPFF contract without the delay of waiting for completion of plans and specifications.

The original construction funds were under a 1951 appropriation required to be obligated prior to July 1, 1951. It was felt that these funds could not be obligated under a lump-sum contract because of incomplete plans and specifications.

It was therefore considered proper and logical to issue a change order to Contract NOy–24357.

[NOy-24357—CPFF]

AIRCRAFT MAINTENANCE BUILDING NO. 200, UNITED STATES NAVAL AIR STATION, JACKSONVILLE, FLA.

A general description of the above-titled building is as follows: The unit is 377 feet 8 inches long by 87 feet 8 inches wide, having a skeleton steel frame covered with galbestos sheathing, fully insulated, with 8-inch reinforced concrete curtain wall extending to a height of 6 feet generally. Roof covering is of 5-ply, built-up roofing on 1 inch of insulation, supported by metal "Q" panel decking

on steel purlins. The building generally is of one story on the west 250 feet of the building, having a story height of approximately 26 feet and having two stories on the east approximately 125 feet, each story's height being 16 feet and 10 feet, respectively. The western one story portion of the building is the main shop, which is floored with wood blocks, and is separated from the eastern portion of the building by a 12-inch brick fire wall. The shops on the first floor of the eastern two story section are floored with wood blocks. Interior partitions on the first floor, with the exception of those around the tool crib and tire and carpenter shops, are formed of concrete block, with the partitions around the above-mentioned areas being formed of woven wire. All doors in the building, whether interior or exterior, are of metal or are metal covered, providing full resistance to fire. The building includes complete offices for squadron operation, including snack bar, locker room, and toilet facilities. On the second floor, the partitions are concrete block and movable metal, the latter being used in such areas as will allow for adjustment in office sizes. The facilities of the building include heating, air conditioning and ventilating systems, fire protection, compressed air system, and exterior paving and landscaping.

OFFICE OF RESIDENT OFFICER-IN-CHARGE OF CONSTRUCTION, UNITED STATES NAVAL AIR STATION, JACKSONVILLE, FLA.

CHANGE "C" FOR COMPLETION OF BUILDING NO. 200

The original estimate of the cost of building No. 200, aircraft maintenance shop, was $696,000. Funds available at the time of issuance of change "B" for construction of building No. 200 were $500,000. In order to remain within the available funds an addendum to the plans and specifications was issued which left out certain components of the building. A request for funds to complete the building was included in the 1952 appropriation, and it was expected to reinstate those components left out when funds were forthcoming.

Near the end of fiscal year 1951, certain construction funds within the same appropriation, available to the Naval Air Station, Jacksonville, Fla., were unobligated. Another estimate was made which included increases in labor and material costs, and it was determined that $212,000 was needed. It was felt that the most economical solution to the Government was the reinstatement of all components of the building if the unobligated funds could be reallocated to building No. 200. Accordingly, a request was made to the Bureau of Yards and Docks to issue change "C" in the amount of $212,000 which was subsequently authorized.

NAVY'S STANDARD FORM CONSTRUCTION CONTRACT

The Navy's standard form construction contract is herewith printed, as indicated at pages 183 and 209 of the hearings, as follows:

NAVDOCKS 197
Rev. July 1951

Contract No.....
Specification No.....

CONTRACT

(Lump Sum)

(Construction)

DEPARTMENT OF THE NAVY

BUREAU OF YARDS AND DOCKS

(Contractor)

Contract for.....
Place.....
Amount, $.....
Appro. Chargeable:
Expend. Acct. Class.
Allotment or P. O.
Activity No.
Submit Invoices To:
Payments will be made by:

CONTRACT FOR CONSTRUCTION

THIS CONTRACT, entered into this _____ day of _____, 19____, by THE UNITED STATES OF AMERICA, hereinafter called the Government, represented by the contracting officer executing this contract, and _____
a corporation organized and existing under the laws of the State of _____
a partnership consisting of _____
an individual trading as _____
of the city of _____ in the State of _____
hereinafter called the contractor, witnesseth that the parties hereto do mutually agree as follows:

Article 1. Statement of work

The contractor shall furnish the materials, and perform the work for _____
_____
for the consideration of _____
in strict accordance with the specifications, schedules, and drawings, all of which are made a part hereof and designated as follows: Bid Item _____
of Specification No. _____.

The work shall be commenced _____
and shall be completed _____
For delay in completion of the work, liquidated damages of $_____ per calendar day shall be assessed in accordance with Article 11 hereof.

The contractor shall furnish a performance bond in the sum of $_____
and a payment bond in the sum of $_____.

Article 2.—Definitions

As used throughout this contract, the following terms shall have the meanings set forth below:

(a) The term "Secretary" means the Secretary, the Under Secretary, or any Assistant Secretary of the Department and the head or any assistant head of the executive agency; and the term "his duly authorized representative" means any person or persons or board (other than the Contracting Officer) authorized to act for the Secretary.

(b) The term "Contracting Officer" means the person executing this contract on behalf of the Government, and any other officer or civilian employee who is a properly designated Contracting Officer; and the term includes, except as otherwise provided in this contract, the authorized representative of a Contracting Officer acting within the limits of his authority.

(c) Except as otherwise provided in this contract, the term "subcontracts" includes purchase orders under this contract.

Article 3.—Government and contractor's representatives

(a) The work will be under the general direction of the Contracting Officer, who shall designate an officer of the Civil Engineer Corps, United States Navy, or other officer or representative of the Government, as Officer in Charge of Construction, hereinafter referred to as the "Officer in Charge," who shall, under the direction of the Contracting Officer, have complete charge of the work, and shall exercise full supervision and general direction of the work, so far as it affects the interest of the Government.

(b) The provisions in this Article or elsewhere in this contract regarding supervision, approval or direction by the Contracting Officer or the Officer in Charge or action taken pursuant thereto are not intended to and shall not relieve the Contractor of responsibility for the accomplishment of the work either as regards sufficiency or the time of performance, except as expressly otherwise provided herein.

(c) The Contractor shall at all times be represented at the site of the work in person or by a competent foreman or superintendent satisfactory to the Contracting Officer. The Contractor's representative shall have authority to act for the Contractor in all matters concerning the work.

Article 4.—Performance of the work

(a) *Workmanship—Material—Workmen.*—Unless otherwise specifically provided for in the specifications, all workmanship, equipment, materials, and articles incorporated in the work covered by this contract are to be of the most suitable grade of their respective kinds for the purpose. Where equipment, materials, or articles are referred to in the specifications as "equal to" any particular standard, the Officer in Charge shall decide the question of equality. The Contractor shall furnish to the Officer in Charge for his approval the name of the manufac-

turer of machinery, mechanical and other equipment which he contemplates incorporating in the work, together with their performance capacities and such other information as may be pertinent or required by the Officer in Charge. When, and to the extent, required by the specifications, or by the Officer in Charge, the Contractor shall furnish the Officer in Charge for approval full information concerning the materials or articles which he contemplates incorporating in the work. Samples of materials shall be submitted for approval when so directed. Machinery, equipment, materials, and articles installed or used without such approval shall be at the risk of subsequent rejection. The Contracting Officer may require the Contractor to remove from the work such employees as the Contracting Officer deems incompetent, careless, insubordinate, or otherwise objectionable, or whose continued employment on the work is deemed by the Contracting Officer to be contrary to the public interest.

(b) *Changed Conditions.*—Information respecting the site of the work given in drawings or specifications has been obtained by Government representatives and is believed to be reasonably correct but the Government does not warrant either the completeness or accuracy of such information and it is the responsibility of the Contractor to verify all such information: *Provided*, That in case of subsurface, latent, or unknown conditions, this contract may be modified, when, in the manner, and to the extent hereinafter in this subparagraph provided: Should the Contractor encounter, or the Government discover, during the progress of the work, subsurface or latent conditions at the site materially differing from those shown on the drawings or indicated in the specifications, or unknown conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as being inherent in work of the character provided for in the drawings and specifications, the Contracting Officer shall be notified before the existing conditions are disturbed. The Contracting Officer shall thereupon promptly investigate the conditions, and if he finds that they do so materially differ, the contract shall be modified by the Contracting Officer to provide for any increase or decrease in cost and difference in time resulting from such conditions and an equitable adjustment in the pertinent contract terms shall be made in accordance with the provisions of paragraph (a) of Article 10 hereof. Such modification by the Contracting Officer shall be final, subject only to appeal under the provisions of Article 16.

(c) *Licenses and Permits.*—The Contractor shall, without additional expense to the Government, obtain all required licenses and permits.

(d) *Responsibility of Contractor.*—The Contractor shall be responsible for all damages to persons or property that occur as a result of this fault or negligence in connection with the prosecution of the work, and shall be responsible for all materials delivered (including Government-furnished material and equipment delivered to the Contractor unless otherwise specifically provided) and work performed until completion and final acceptance. Upon completion of the contract the work shall be delivered complete and undamaged.

(e) *Space at Site.*—The Contractor shall be allowed reasonable space at the site of the work and access thereto and shall confine his operations to the space assigned. The work shall be done without interference with the ordinary use of streets, berthing places, fairways, and passages and the Contractor shall cooperate with other contractors of the Government and Government employees as may be required by the circumstances or directed by the Officer in Charge. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other contractor or Government employees whether at the site or not.

(f) *Protective Measures.*—The Contractor shall protect the materials and work from deterioration and damage during construction and shall store and secure inflammable material from fire, remove oily rags, waste, and refuse from buildings each night and during cold weather furnish all heat necessary for the proper conduct of the work. He shall provide and maintain all temporary walkways, roadways, trench covers, barricades, colored lights, danger signals, and other devices necessary to provide for safety and traffic.

(g) *Safety Measures.*—The Contractor shall take all reasonable steps to prevent injury to persons or property in performance of this contract, and the Contractor shall take such other or further steps as may be required by the Officer in Charge to the end of promoting safety and avoiding accidents.

(h) *Temporary Buildings.*—The Contractor shall erect at his own expense and remove as required by Article 20 such temporary storage sheds and offices as are necessary for the work. Such structures shall be subject to the approval of the Officer in Charge.

Article 5.—Specifications and drawings

(*a*) *Conflicts—Omissions—Misdescription—Misinformation.*—The Contractor shall keep on the work a copy of the drawings and specifications and the Officer in Charge shall at all times have access thereto. Anything mentioned in the specifications and not shown on the drawings or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between the drawings and specifications the specifications shall govern. Omissions from the drawings or specifications or the misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of work but they shall be performed as if fully and correctly set forth and described in the drawings and specifications.

(*b*) *Checking of Drawings and Dimensions.*—The Contractor shall check all drawings furnished him immediately upon their receipt and shall promptly notify the Officer in Charge of any discrepancies. Figures marked on drawings shall in general be followed in preference to scale measurements. Large-scale drawings shall in general govern small-scale drawings. The Contractor shall compare all drawings and verify the figures before laying out the work and will be responsible for any errors which might have been avoided thereby. When measurements are affected by conditions already established, the Contractor shall take measurements notwithstanding the giving of scale or figure dimensions in the drawings.

(*c*) *Deviations.*—Deviations from the drawings and the dimensions therein given, whether or not error is believed to exist, shall be made only after written authority is obtained from the contracting officer.

(*d*) *Lines and Grades.*—The Government will establish the initial lines and grades for the commencement of the work, but the Contractor shall furnish and place all additional stakes, templates, and bench marks necessary for marking and maintaining points, lines, and elevations. The Contractor shall be responsible for the agreement of the finished work with the lines and grades established by the Government.

(*e*) *Interpretations and Instructions.*—All questions regarding the figures, drawings, plans, and specifications and the interpretation thereof and the resolving of conflicts and inconsistencies therein shall be determined by the Contracting Officer, and such determination shall be final, subject only to appeal under the provisions of Article 16.

(*f*) *Special Drawings.*—Whenever required by the specifications or the Contracting Officer, the Contractor shall make special or detailed drawings in amplification of the drawings referred to in this contract or in furtherance of the specifications before proceeding with the work. Such drawings shall be submitted to the Contracting Officer or the Officer in Charge, in the form of blueprints in duplicate. If approved, one set of such prints will be returned to the Contractor marked "Approved." If changes or corrections are necessary, one set will be returned to the Contractor with such changes or corrections noted and the Contractor shall resubmit corrected or changed prints in duplicate. When a drawing has been approved, the Contractor shall furnish the Officer in Charge with additional blueprint copies or with the tracing or an equivalent as regards facility for printing. If a tracing is submitted, the Government will make such prints as are required and will return the tracing to the Contractor. Upon the completion of the work the Contractor shall, if so directed, furnish the Government with one complete set of Vandyke prints on cloth of all approved drawings. When the work of the Contractor is of a nature originating with it, full general and detail drawings shall be furnished to the Government in the form of tracings or the equivalent as regards facility for printing which shall upon approval, become the property of the Government and approved sets of prints shall be furnished to the Contractor. It is understood that the approval by the Government of the Contractor's drawings, whether general or detailed, is a general approval relating only to their sufficiency and compliance with the intention of the contract and shall not excuse, or constitute a waiver of, errors, discrepancies, or omissions.

Article 6.—Payment and release

(*a*) The Contractor shall be entitled to partial payments hereunder as the work progresses upon the basis of estimates made by the Contracting Officer of the degree of completion. In making such estimates, materials delivered to the site, work done at the Contractor's assembly plant, and preparatory work done by the Contractor may be taken into consideration.

(*b*) The Contractor may submit monthly, or at more frequent intervals, as approved by the Contracting Officer, to the Officer in Charge an itemized request for partial or final payment as the case may be. The Officer in Charge will recommend for the approval of the Contracting Officer an amount which he believes the Contractor is entitled to be paid. Payment shall be made of the amount approved by the Contracting Officer subject to reduction for overpayments or increase for underpayments on preceding payments to the Contractor. The Contracting Officer may in his discretion reserve or withhold a percentage (not exceeding 10 percent) of each payment hereunder until the completion of the work and acceptance thereof by the Government or until such earlier time as he may determine.

(*c*) All material and work covered by partial payments made shall thereupon become the property of the Government, but this provision shall not be construed as relieving the Contractor from the sole responsibility for all materials and work upon which payments have been made or the restoration of any damaged or destroyed work, or as a waiver of the right of the Government to require the fulfillment of all of the terms of the contract.

(*d*) The obligation of the Government to make any of the payments required under any of the provisions of this contract (including those of Articles 25 and 26) shall, in the discretion of the Contracting Officer, be subject to (1) any unsettled claims against the Contractor for labor or materials, (2) reasonable deductions on account of defects in material or workmanship, and (3) any claims which the Government may have against the Contractor under or in connection with this contract. Any overpayments to the Contractor shall, unless otherwise adjusted, be repaid to the Government upon demand.

(*e*) The Contractor and each assignee under an assignment in effect at the time of final payment shall, if required by the Contracting Officer, execute and deliver at the time of and as a condition precedent to final payment, a release in form and substance satisfactory to and containing such exceptions as may be found appropriate by the Contracting Officer, discharging the Government, its officers, agents, and employees of and from liabilities, obligations, and claims arising under this contract.

Article 7. Assignment of claims

(*a*) Pursuant to the provisions of the Assignment of Claims Act of 1940 as amended (31 U. S. C. 203, 41 U. S. C. 15), if this contract provides for payments aggregating $1,000 or more, claims for moneys due or to become due the Contractor from the Government under this contract may be assigned to a bank, trust company or other financing institution, including any Federal lending agency, and may thereafter be further assigned and reassigned to any such institution. Any such assignment or reassignment shall cover all amounts payable under this contract and not already paid, and shall not be made to more than one party, except that any such assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in such financing. Notwithstanding any other provision of this contract, payments to an assignee of any moneys due or to become due under this contract shall not, to the extent provided in said Act as amended, be subject to reduction or set-off.

(*b*) In no event shall copies of this contract or of any plans, specifications, or other similar documents relating to work under this contract, if marked "Top Secret," "Secret," "Confidential," or "Restricted," be furnished to any assignee of any claim arising under this contract or to any other person not entitled to receive the same: *Provided*, That a copy of any part or all of this contract so marked may be furnished, or any information contained therein may be disclosed, to such assignee upon the prior written authorization of the Contracting Officer.

Article 8. Inspection and testing

(*a*) The Contractor will be notified whether cognizance over factory inspection hereunder and over the approval of special drawings required to be furnished by the Contractor will be in the Contracting Officer or the Officer in Charge. When the specifications require factory inspection, the "General Specifications for Inspection of Material" issued by the Navy Department July 1, 1941, together with the additions and amendments thereto in effect on the date of this contract, shall be applicable to such inspection and the Contractor shall comply therewith. The Officer in Charge shall determine which materials are required by the specifications to be factory inspected or have chemical or physical analysis or other inspection or test. The Contractor shall furnish four copies of orders for all materials requiring such inspection or test as soon as placed to either the Contracting

Officer or the Officer in Charge (as determined by the notice theretofore given the Contractor). Such orders shall contain complete information including that as to the quantity, quality, dimensions, sizes, capacities, and types, and shall contain proper references to the applicable Government specifications by title, number, and paragraph and shall show the name and address of the producing factory but need not contain prices or contractual terms. When an inspection office has been designated for a purchase order, suborders under such purchase orders shall, except as may otherwise be directed by the Officer in Charge, be furnished to the inspector direct and not to the Contracting Officer or the Officer in Charge.

(*b*) All material and workmanship (if not otherwise designated by the specifications) shall be subject to inspection, examination, and test by Government inspectors at any and all times during manufacture or construction and at any and all places where such manufacture or construction is carried on. The Government shall have the right to reject defective material and workmanship or require its correction. Rejected workmanship shall be satisfactorily corrected, and rejected material shall be satisfactorily replaced with proper material without charge therefor, and the Contractor shall promptly segregate and remove the rejected material from the premises. If the Contractor fails to proceed at once with the replacement of rejected material and the correction of defective workmanship the Government may, by contract or otherwise, replace such material and correct such workmanship and charge the cost thereof to the Contractor, or may terminate the right of the Contractor to proceed as provided in Article 25.

(*c*) The Contractor shall furnish promptly without additional charge, all reasonable facilities, labor, and materials necessary for the safe and convenient conduct of all inspections and tests that may be required by Government inspectors. All inspections and tests by the Government shall be performed in such manner as not unnecessarily to delay the work. Special, full size, and performance tests shall be as described in the specifications. The Contractor shall be charged with any additional cost of inspection when material or workmanship is not ready at the time inspection is requested by the Contractor.

(*d*) Should it be considered necessary or advisable by the Government at any time before final acceptance of the entire work to make an examination of work already completed, by removing or tearing out same, the Contractor shall on request promptly furnish all necessary facilities, labor, and material. If such work is found to be defective or nonconforming in any material respect, due to fault of the Contractor or his subcontractors, the Contractor shall defray all the expenses of such examination and of satisfactory reconstruction and be responsible for any resulting delay. If, however, such work is found to meet the requirements of the contract, the actual cost of labor and material necessarily involved in the examination and replacement, plus 6 percent, shall be allowed the Contractor, and he shall, in addition, if completion of the work has been delayed thereby, be granted a suitable extension of time on account of the additional work involved.

(*e*) Inspection of material and finished articles to be incorporated in the work at the site shall be made at the place of production, manufacture, or shipment, whenever the quantity justifies it, unless otherwise stated in the specifications; and such inspection and acceptance, unless otherwise stated in the specifications, shall be final, except as regards latent defects, departures from specific requirements of the contract and the specifications and drawings made a part thereof, damage or loss in transit, fraud, or such gross mistakes as amount to fraud. Subject to the requirements contained in the preceding sentence, the inspection of material and workmanship for final acceptance as a whole or in part shall be made at the site. Nothing contained in this paragraph (*e*) shall in any way restrict the Government's rights under any warranty or guaranty.

Article 9. Testing foundations

Tests of the bearing value of the material underlying the foundation of the structure to be built shall be made at such times and places and in such a manner as may be directed by the Officer in Charge. As far as practicable, test piles, when used, shall be so located that they can become part of the finished structure. The Contractor shall furnish the Officer in Charge ample opportunity for viewing tests and making such records as the latter may consider advisable. The Contractor shall be entitled to compensation for making such tests in the same manner as for a change required by the Contracting Officer under Article 10 to the extent the contract price does not include compensation therefor. Notice must be given of intention to request compensation in accordance with Article 10.

Article 10. Changes and extras

(a) The Contracting Officer may at any time or times, by a written order, and without notice to the sureties, make changes in the drawings or specifications of this contract and within the general scope thereof. If such changes cause an increase or decrease in the cost of doing the work under this contract, or in the time required for its performance, an equitable adjustment in the pertinent contract terms shall be made as hereinafter provided and the contract shall be modified in writing accordingly. Any claim of the Contractor for such an adjustment must be made in writing to the Officer in Charge within 10 days from the receipt of such change order or within such longer period as may be allowed by the Contracting Officer. If the Officer in Charge considers that such change should result in a decrease in the Contractor's compensation or time for performance or both, he shall so notify the Contractor. In either case, the equitable adjustment shall be made in accordance with the mutual agreement of the parties, provided, however, that if the parties are unable to agree, the Contracting Officer shall determine such equitable adjustment, if any, to be made in the contract terms, and his determination shall be final, subject only to appeal under the terms of Article 16. In making such determination, the Contracting Officer shall, in those instances where the adjustment to be made in compensation is estimated by the Officer in Charge to amount to $10,000 or more, convene, and give full consideration to the report of, an advisory board of three members, consisting of two Government representatives appointed by the Contracting Officer and one representative appointed by the Contractor. This board shall estimate and report to the Contracting Officer the amount of the change in cost, time, or both, resulting from the ordered change. In making such estimate, the estimated cost of additions shall be based upon the estimated actual cost to the Contractor and the estimated cost of deductions shall be based upon the estimated cost to the Contractor as of the time the contract was made. To such cost estimates, 6 percent shall be added by said board to adjust the Contractor's profits. In arriving at the amount of the change in price, if any, allowance may be made at the discretion of the Contracting Officer for overhead and general expenses, plant rental, and other similar items.

(b) Nothing provided in this article shall excuse the Contractor from diligently proceeding with the prosecution of the work so changed.

Article 11. Liquidated damages

(a) If the Contractor fails to complete the work or any part thereof within the time specified in Article 1, or applicable extension thereof, it will be difficult or impossible to ascertain the actual damages for the delay and in lieu thereof the Contractor shall pay to the Government as fixed, agreed, and liquidated damages for each calendar day of delay until the delayed work is complete or accepted, the amount as set forth in the specifications or in Article 1. If, after the expiration of the time specified in Article 1, or applicable extension thereof, the Government terminates the right of the Contractor to proceed and does not elect to complete the work, liquidated damages shall be paid as above provided for each calendar day after the time specified in Article 1, or applicable extension thereof, until the effective date of the termination of the Contractor's right to proceed. If the Government terminates the right of the Contractor to proceed and elects to complete the work as provided in Article 25, liquidated damages shall, if the Government exercises due diligence in completing the work, be paid as above provided for each day after the time specified in Article 1, or applicable extension thereof, until the delayed work is completed or accepted. The Contractor and his sureties shall be liable for all such liquidated damages accruing as hereinabove provided. It is agreed, however, that the Contractor shall not be charged with liquidated or actual damages because of any delays in the completion of the work due to causes beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God, or of the public enemy, acts of the Government or any State or political subdivision thereof (including, but not restricted to the operation of any governmental preferences, priorities or allocations of equipment or material), acts of another Contractor in the performance of a contract with the Government, fires, floods, explosions, earthquakes, or other catastrophes, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather, or delays of subcontractors or material suppliers due to such causes (unless the Contracting Officer shall have ordered the Contractor to procure such work or material from other sources), if the Contractor shall within 10 days from the beginning of any such delay, or such longer period as may be allowed by the Contracting Officer, notify the Contracting Officer in writing of the

causes of delay. The Contracting Officer shall ascertain the facts and the extent of the delay and extend the time for completing the work or any part thereof when in his judgment the findings of fact justify such an extension. The determination of the Contracting Officer shall be final, subject only to appeal under the provisions of Article 16.

(b) If no amount for liquidated damages is stated in the specifications or elsewhere in this contract, then, notwithstanding the provisions of this article, no liquidated damages shall be assessed hereunder.

Article 12. Composition of the contractor

If the Contractor hereunder is comprised of more than one legal entity, each such entity shall be jointly and severally liable hereunder.

Article 13. Liens

(a) Any and all partial or advance payments made hereunder shall be secured, when made, by a lien in favor of the Government upon the work and upon articles, materials, and other property acquired for or allocated to the performance of this contract, and upon such part of any mass of property not specifically allocated as represents the proportion of the total mass to be allocated to this contract, except to the extent that the Government, by virtue of any other provisions of this contract or otherwise, shall have valid title to such work, articles, materials, or other property as against other creditors of the Contractor. Said lien shall be paramount to all other liens, pursuant to the provisions of the Act approved August 22, 1911 (37 Stat. 32; 34 U. S. Code, sec. 582). It is agreed that in case of default by the Contractor in the performance of this contract, including any bankruptcy, receivership, reorganization, assignment for the benefit of creditors, or other insolvency proceeding of the Contractor which is not waived by the Government, such default, unless waived by the Government, shall ipso facto operate to vest in the Government title to such of the work and property acquired and/or produced by the Contractor for the performance of this contract, the title of which has not been previously vested in the Government under the provisions of this contract, as the Contracting Officer may direct; provided, however, that this provision shall not be operative unless at least one partial or advance payment shall have been made under this contract.

(b) The Contractor agrees that to the extent determined necessary and practical by the Officer in Charge, it will identify by marking or segregation all property which is subject to a lien in favor of the Government by virtue of any provisions of this contract, in such manner as to indicate that it is subject to such lien and that it has been acquired for or allocated to the performance of this contract. In any event, the Contractor shall maintain adequate accounting control over such property on its books and records.

Article 14. Federal excise taxes

(a) The compensation stated herein includes all applicable Federal taxes in effect at the date of this contract and incurred in the performance of this contract.

(b) If, (i) after the date of this contract, the Federal Government shall impose or increase any duty or impost, or any excise, sales, use, or gross receipts tax, or any other tax directly applicable to the completed work covered hereby or to the materials used in the manufacture or production of such completed work, or directly upon the importation, production, processing, manufacture, construction, sale or use of such work or materials, and (ii) the Government, at the request of the Contractor, does not issue to the Contractor a tax exemption certificate or furnish other proof of exemption with respect to such tax, and (iii) the Contractor is required by operation of law or by specific contractual obligation to bear the burden of such tax, then the prices stated herein shall be correspondingly increased. If, by operation of law or otherwise, the Contractor is relieved in whole or in part from the payment of any tax included in the compensation stated herein or from bearing its burden, the prices stated herein shall be correspondingly reduced. Invoices or vouchers covering any increase or reduction in price resulting from the application of this Article shall state the amount thereof, as a separate added or deducted item, identifying the particular tax imposed or increased or reduced or eliminated.

(c) Nothing contained in this Article shall be applicable to impositions, increases, reductions or eliminations, after the date of this contract, of Federal transportation taxes, employment (or Social Security) taxes, income taxes, income surtaxes, excess-profits taxes, declared-value excess-profits taxes, capital stock taxes, or such other taxes as are not contemplated by paragraph (b) of this Article.

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Article 15. Additional security

Should any surety upon any bond furnished in connection with this contract become unacceptable to the Government, or if any such surety shall fail to furnish reports as to his financial condition from time to time as requested by the Government, the Contractor must promptly furnish such additional security as may be required from time to time by the Contracting Officer to protect the interests of the Government or of persons supplying labor or materials in the prosecution of the work contemplated by the contract.

Article 16. Disputes

Except as otherwise provided in this contract, any dispute concerning a question of fact arising under this contract which is not disposed of by agreement shall be decided by the Contracting Officer, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to the Contractor. Within 30 days from the date of receipt of such copy, the Contractor may appeal by mailing or otherwise furnishing to the Contracting Officer a written appeal addressed to the Secretary, and the decision of the Secretary or his duly authorized representative for the hearing of such appeals shall be final and conclusive: *Provided*, That if no such appeal is taken, the decision of the Contracting Officer shall be final and conclusive. In connection with any appeal proceeding under this clause, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its appeal. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the contract and in accordance with the Contracting Officer's decision.

Article 17. Patent indemnity and notice and assistance

(a) The Contractor agrees to indemnify the Government and its officers, agents and employees against liability, including costs and expenses, for infringement upon any Letters Patent of the United States (except Letters Patent issued upon an application which is now or may hereafter be, for reasons of national security, ordered by the Government to be kept secret or otherwise withheld from issue) arising out of the performance of this contract or out of the use or disposal by or for the account of the Government of supplies furnished or construction work performed hereunder. The foregoing indemnity shall not apply unless the Contractor shall have been informed as soon as practicable by the Government of the suit or action alleging such infringement, and shall have been given an opportunity to present recommendations as to the defense thereof; and further, such indemnity shall not apply in any one of the following situations: (i) Any infringement resulting from the addition to any such supplies of other supplies not furnished by the Contractor for the purpose of such addition; (ii) any settlement of a claim of infringement made without the consent of the Contractor, unless required by final decree of a court of competent jurisdiction; (iii) any claim of infringement arising from use or disposal outside the scope of any license limitation under which the Contractor is bound, provided that the Contractor has notified the Government of the limitation prior to first delivery under this contract; (iv) any infringement necessarily resulting from changes (other than the substitution of another standard commercial part or component manufactured or supplied by the Contractor) ordered pursuant to this contract, or from specific written instructions given by the Contracting Officer directing a manner of performing the contract not normally utilized by the Contractor.

(b) The Contractor agrees to report to the Contracting Officer, promptly and in reasonable written detail, each claim of patent infringement based on the performance of this contract and asserted against it, or against any of its subcontractors if it has notice thereof.

(c) In the event of litigation against the Government on account of any claim of infringement arising out of the performance of this contract or out of the use of any supplies furnished or construction work performed hereunder, the Contractor agrees that it will furnish to the Government, upon request, all evidence and information in its possession pertaining to the defense of such litigation. Such information shall be furnished at the expense of the Government except in those cases in which the Contractor has agreed to indemnify the Government against the claim being asserted.

Article 18. Insurance

If the Contractor shall procure or maintain any insurance upon any property in which the Government has or may acquire an interest or upon which it has or may acquire a lien under this contract or otherwise, such policies shall, in the following language, make formal disclosure of the diversity of interests: "Notice

is hereby given and accepted that the United States of America has or may acquire an interest in the subject matter of this insurance." Such policy or policies shall also contain a loss payable clause reading as follows: "Loss if any under this policy shall be adjusted with the named insured and be made payable to the Secretary of the Navy, or order." Any payments thereunder shall inure to the benefit of the Government to the extent of any loss suffered by the Government and to the Contractor as to any remaining balance.

Article 19. Use of structure before acceptance

(a) The Government may, at any time, and from time to time, during the performance of the work, enter the structure for the purpose of installing any necessary work by Government labor or other contracts and for any other purpose in connection with the installation of facilities. In doing so the Government shall endeavor not to interfere with the Contractor and the Contractor shall not interfere with other work being done by or on behalf of the Government.

(b) If, prior to completion and final acceptance of all the work, the Government takes possession of any structure (whether completed or otherwise) comprising a portion of the work with the intent of retaining possession thereof (as distinguished from temporary possession contemplating return to the Contractor), then while the Government is in possession of the same the Contractor, notwithstanding the provisions of paragraph (d) of Article 4, shall be relieved of the responsibility for loss or damage to such structure other than that resulting from the Contractor's fault or negligence. Such taking of possession by the Government shall not relieve the Contractor from any provisions of this contract respecting such structure, other than to the extent specified in the preceding sentence, nor constitute a final acceptance of such structure.

Article 20. Removal of plant and cleaning up

Upon the completion of the work the Contractor shall remove all his plant, tools, materials, and other articles from the property of the Government. Should he fail to take prompt action to this end the Government (at its option and without waiver of such other rights as it may have) may on 30 days' notice treat them as abandoned property. He shall also sweep all floors broom clean, clean all exterior brickwork and window lights, and remove all rubbish from the property of the Government.

Article 21. Government utilities

Where available, and so far as the Government plant and the demands of the Government service permit, the Contractor may obtain, when necessary for the proper execution of the work, water from the station supply, electric current for power and light, compressed air and other forms of power, and may use the railroad tracks, rolling stock, and hoisting appliances of the station system, paying for the materials and services at the prevailing Government rates, which may be ascertained by application to the Officer in Charge. The Government will furnish and install one meter, one switch, and in case alternating current is used, one transformer, for electric current, also one water meter and shut-off for water mains, at or near the limits of the area assigned to the Contractor. The Contractor shall provide, maintain, and repair, subject to the control of the Officer in Charge, all further wiring, poles, lamps, and accessories and all further piping and fittings required to transfer the electric current and water to the different parts of the work. The Government will assume no liability for the failure of the supply of any of the above-mentioned utilities. Payment for the use of Government utilities shall be made in advance by a special deposit with the proper Government official. Where the transportation, movement, or handling of materials is performed by the Government it will be at the risk and responsibility of the Contractor. The Government assumes no responsibility for loss or damage to any materials occurring while in its possession.

Article 22. Schedule and reports of progress

The Contractor, if so directed, shall furnish on a prescribed form a schedule of expected progress of the work under the contract, showing approximately the dates on which each part or division of the work is expected to be begun and finished. The Contractor shall also forward to the Officer in Charge, as soon as practicable after the first day of each month, a summary report of the progress of the various parts of the work under the contract in the mills or shops and in the field, stating the existing status, rate of progress, estimated time of completion, and cause of delay, if any.

Article 23. Sanitation

Adequate sanitary conveniences of an approved type for the use of persons employed on the work, and properly secluded from public observation, shall be constructed and maintained by the Contractor in such a manner and at such points as shall be required or approved by the Officer in Charge. These conveniences shall be maintained at all times without nuisance and their use shall be strictly enforced. Upon completion of the work they shall be removed from the premises, leaving the premises clean and free from nuisance.

Article 24. No waiver by Government

The failure of the Government in any one or more instances to insist upon strict performance of any of the terms of this contract or to exercise any option herein conferred, shall not be construed as a waiver or relinquishment to any extent of the right to assert or rely upon any such terms or option on any future occasion.

Article 25. Termination for default

(a) The performance of work under this contract may, subject to the provisions of paragraph (a) of Article 26, be terminated by the Government in accordance with this article in whole, or from time to time in part, whenever the Contractor shall default in performance, or shall so fail to make progress in the prosecution of the work hereunder as, in the opinion of the Contracting Officer, to endanger performance of this contract in accordance with its terms. Termination of work hereunder shall be effected by delivery to the Contractor of a Default Notice of Termination specifying that termination is for default or failure, the extent to which performance of work under this contract shall be terminated, and the date upon which such termination shall become effective.

(b) After receipt of a Default Notice of Termination and except as otherwise directed by the Contracting Officer, the Contractor shall (1) terminate work under the contract on the date and to the extent specified in the Default Notice of Termination; (2) assign to the Government or to such other party or parties as the Contracting Officer may direct, in the manner and to the extent directed by the Contracting Officer, all of the right, title and interest of the Contractor under orders and subcontracts to the extent that they relate to the performance of any work terminated by the Default Notice of Termination; (3) to the extent not required for performance of work under this contract not terminated by the Default Notice of Termination, transfer title and deliver to the Government or to such other party or parties as the Contracting Officer may direct, in the manner, to the extent and at the times directed by the Contracting Officer (i) the fabricated or unfabricated parts, work in process, completed work, supplies and other material produced as a part of, or acquired in respect of the performance of, the work terminated in the Default Notice of Termination, (ii) the plans, drawings, information and other property which, if the contract had been completed would be required to be furnished to the Government and (iii) construction equipment, tools and spare parts acquired for or allocated to the performance of the work; (4) complete performance of such part of the work as shall not have been terminated by the Default Notice of Termination; and (5) take such action as may be necessary or as the Contracting Officer may direct for protection and preservation of property which is in the possession of the Contractor and in which the Government has or may acquire an interest.

(c) In addition to its other remedies, the Government may, with respect to work terminated as provided in this article, complete such work or any part thereof in such manner and by such means and with such changes therein as it may deem advisable. If the Government elects to complete less than all of such work, or to make changes therein, the contract price (adjusted as of the effective date of termination pursuant to other provisions of this contract) shall for the purpose of this paragraph be further adjusted, in the manner provided in Article 10 in case of a change, to reflect such deletion or changes in the work made after the effective date of termination, and all references hereinafter made in this paragraph (c) to the contract price shall be deemed made to the contract price as so finally adjusted. In effecting the completion of work under this article, the Government may, in addition to all rights, otherwise conferred, take possession of and utilize such material, equipment and plant as may be at the site of the work or on order and which the Contracting Officer may deem necessary or useful in facilitating such completion. Upon completion of such work, or so much thereof as is to be completed, the Contracting Officer shall determine the cost to the Government of such completion, which determination shall be final, subject only to appeal under

Article 16. If the cost of such completion, plus all payments otherwise made to the Contractor, exceeds the contract price, the excess cost shall be charged to the Contractor and the Contractor or his surety, if any, shall pay such amount to the Government upon demand. Such amount shall be in addition to the liquidated damages to be paid under Article 11.

(d) Upon termination of work pursuant to this article, the Government, but without duplication of any amounts, shall pay the Contractor the following amounts:

(1) For work performed which is in place at the site on the effective date of termination and for work not terminated by the Default Notice of Termination: The reasonable value thereof (including in the discretion of the Contracting Officer, a fair profit) as determined by agreement of the parties. In no event shall the total value so determined exceed a percentage of the contract price (adjusted as of the effective date of termination pursuant to other provisions of the contract) equivalent to the percentage of work under the contract as a whole (adjusted as of the effective date of termination pursuant to other provisions of the contract) represented by work which is in place at the site on the effective date of termination plus the work not terminated by the Default Notice of Termination.

(2) For all property transferred and delivered to the Government, its designee or designees, pursuant to paragraph (b) (3) of this article: The reasonable value of such property [without duplication of any amounts fixed under paragraph (d) (1), and including in the discretion of the Contracting Officer, a fair profit] as determined by agreement of the parties.

(3) The reasonable cost of the preservation and protection of property incurred pursuant to paragraph (b) (5) of this article as determined by agreement of the parties.

(4) The reasonable value or reasonable rental value, as the case may be, of material, equipment and plant utilized by the Government under the provisions of paragraph (c) of this article, as determined by agreement of the parties, provided that the risk of loss of or damage to such equipment and plant shall be in the Contractor during the period so utilized by the Government.

If the parties are unable to agree upon any of the values, costs, or percentages referred to in this paragraph (d), then the values, costs, or percentages as to which such agreement is lacking shall be determined by the Contracting Officer, which determination shall be final, subject only to appeal under the provisions of Article 16. Except for normal spoilage and to the extent that the Government shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the Contractor as provided in paragraphs (d) (1), (d) (2), and (d) (4), all amounts allocable to or payable in respect of property which is destroyed, lost, stolen, or damaged prior to delivery to the Government.

(e) The obligation of the Government to make any payment under this article: (1) shall be subject to deductions in respect of (i) all unliquidated partial or progress payments, payments on account theretofore made to the Contractor and unliquidated advance payments, and (ii) any claim which the Government may have against the Contractor in connection with this contract (including without limitation any claims under paragraph (c) of this article); (2) in the discretion of the Contracting Officer shall be subject to deduction in respect of the amount of any claim of any subcontractor or supplier whose subcontract or order is related to the performance of this contract; and (3) shall be subject to the condition that payment of that portion of the amount to be paid the Contractor on account of the completion of the part of the work which is not terminated by the Default Notice of Termination shall be made at the times and in the manner provided in Article 6 with respect to partial payments and final payment for the performance of the work.

(f) This contract shall not be terminated and the Contractor shall not be charged with any liability to the Government under the provisions of this article where the default or failure of the Contractor is due to causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to those causes with respect to which it is provided in Article 11 that the Contractor shall not be charged with liquidated damages for delay. In the event that a Default Notice of Termination has been delivered to the Contractor and it is thereafter determined that the default or failure is due to causes beyond the control and without the fault or negligence of the Contractor, performance of work under this contract shall be deemed to have been terminated, effective as of the effective date of the Default Notice of Termination, pursuant to Article 26.

The Government shall, in case of such determination, promptly cancel the notice under this article and shall issue the notice provided in paragraph (a) of Article 26, and the rights and obligations of the parties shall in such event be governed by Article 26.

(g) The Government shall make partial payments and payments on account, from time to time, of the amounts, if any, to which the Contractor shall be entitled under this article, whether determined by agreement or otherwise, whenever in the opinion of the Contracting Officer the aggregate of such payments shall be within the amount to which the Contractor will be entitled hereunder.

Article 26. Termination at the option of the Government

(a) The performance of work under this contract may be terminated by the Government in accordance with this article in whole, or from time to time in part, whenever the Contracting Officer shall determine any such termination is for the best interests of the Government. Termination of work hereunder shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of work under the contract shall be terminated, and the date upon which such termination shall become effective. If termination of work under this contract is simultaneous with, a part of, or in connection with, a general termination (1) of all or substantially all of a group or class of contracts made by the Navy Department for the same type of work or for closely related types of work, or (2) of war contracts at, about the time of, or following, the cessation of the present hostilities, or any major part thereof, such termination shall only be made in accordance with the provisions of this article, unless the Contracting Officer finds that the Contractor is then in gross or willful default under this contract.

(b) After receipt of a Notice of Termination and except as otherwise directed by the Contracting Officer, the Contractor shall (1) terminate work under the contract on the date and to the extent specified in the Notice of Termination; (2) place no further orders or subcontracts for materials, services or facilities except as may be necessary for completion of such portions of the work under the contract as may not be terminated; (3) terminate all orders and subcontracts to the extent that they relate to the performance of any work terminated by the Notice of Termination; (4) assign to the Government, in the manner and to the extent directed by the Contracting Officer, all of the right, title and interest of the Contractor under the orders and subcontracts so terminated; (5) settle all claims arising out of such termination of orders and subcontracts with the approval or ratification of the Contracting Officer to the extent that he may require, which approval or ratification shall be final for all purposes of this article; (6) transfer title and deliver to the Government in the manner, to the extent and at the times directed by the Contracting Officer (i) the fabricated or unfabricated parts, work in process, completed work, supplies and other material produced as a part of, or acquired in respect of the performance of, the work terminated in the Notice of Termination, and (ii) the plans, drawings, information and other property which, if the contract had been completed, would be required to be furnished to the Government; (7) use his best efforts to sell in the manner, to the extent, at the time, and at the price or prices directed or authorized by the Contracting Officer, any property of the types referred to in subdivision (6) of this paragraph, provided, however, that the Contractor (i) shall not be required to extend credit to any purchaser and (ii) may retain any such property at a price or prices approved by the Contracting Officer; (8) complete performance of such part of the work as shall not have been terminated by the Notice of Termination; and (9) take such action as may be necessary or as the Contracting Officer may direct for protection and preservation of the property, which is in the possession of the Contractor and in which the Government has or may acquire an interest.

(c) The Contractor and the Contracting Officer may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the total or partial termination of work pursuant to this Article, which amount or amounts may include a reasonable allowance for profit, and the Contractor and the Contracting Officer may further agree upon the amount or amounts to be paid to the Contractor for the completion of such part of the work as shall not have been terminated by the Notice of Termination, and the Government shall pay the agreed amount or amounts. Nothing in paragraph (d) of this Article prescribing the amount to be paid to the Contractor in the event of the failure of the Contractor and the Contracting Officer to agree upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this Article or the amount to be paid the Contractor for completing such part of the work not

terminated shall be deemed to limit, restrict or otherwise determine or affect the amount or amounts which may be agreed upon to be paid to the Contractor pursuant to this paragraph (c).

(d) In the event of the failure of the Contractor and the Contracting Officer to agree as provided in paragraph (c) upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this Article or the amount to be paid the Contractor for completing the part of the work not terminated, the Government, but without duplication of any amounts agreed upon in accordance with paragraph (c), shall pay to the Contractor the following amounts:

(1) In respect of all contract work performed prior to the effective date of the Notice of Termination, the total (without duplication of any items) of (i) the cost of such work; (ii) the cost of settling and paying claims arising out of the termination of work under subcontracts or orders as provided in paragraph (b) (5) above, exclusive of the amounts paid or payable on account of supplies or materials delivered or services furnished by the subcontractor prior to the effective date of the Notice of Termination of work under this contract, which amounts shall be included in the cost on account of which payment is made under subdivision (i) above; and (iii) a sum equal to 2 percent of the part of the amount determined under subdivision (i) which represents the cost of articles or materials delivered to the site but not incorporated in the work in place on the effective date of the Notice of Termination, plus a sum equal to 8 percent of the remainder of such amount, but the aggregate of such sums shall not exceed 6 percent of the whole of the amount determined under subdivision (i), which for the purpose of this subdivision (iii) shall exclude any charges for interest on borrowings.

(2) In respect of the completion of such part of the contract work as shall not have been terminated by the Notice of Termination, a fair and reasonable price for such completion.

(3) The reasonable cost of the preservation and protection of property incurred pursuant to paragraph (b) (9) hereof; and any other reasonable cost incidental to termination of work under this contract, including expense incidental to the determination of the amount due to the Contractor as the result of the termination of work under this contract.

The total sum to be paid to the Contractor under subdivisions (1) and (2) of this paragraph (d) shall not exceed the total contract price reduced by the amount of payments otherwise made. Except for normal spoilage and to the extent that the Government shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the Contractor as provided in paragraph (d) (1) (i), all amounts allocable to or payable in respect of property, which is destroyed, lost, stolen or damaged prior to delivery to the Government or transfer of title to a buyer pursuant to paragraph (b) (7) or prior to the 60th day after delivery to the Government of an inventory covering such property, whichever shall first occur, provided, however, that in respect of any structure on which contract work is to be continued by the Contractor after the effective date of the Notice of Termination, the responsibility of the Contractor for such structure and property intended therefor shall be governed by the provisions of paragraph (d) of Article 4.

(e) The obligation of the Government to make any payments under this Article: (1) Shall be subject to deductions in respect of (i) all unliquidated partial or progress payments, payments on account theretofore made to the Contractor and unliquidated advance payments, (ii) any claim which the Government may have against the Contractor in connection with this Contract, and (iii) the price agreed upon or the proceeds of sale of any materials, supplies or other things retained by the Contractor or sold, and not otherwise recovered by or credited to the Government, and (2) in the discretion of the Contracting Officer shall be subject to deduction in respect of the amount of any claim of any subcontractor or supplier whose subcontract or order shall have been terminated as provided in paragraph (b) (3) except to the extent that such claim covers (i) property or materials delivered to the Contractor or (ii) services furnished to the Contractor prior to the effective date of the Notice of Termination, and (3) shall be subject to the condition that payment of the amount to be paid the Contractor on account of the completion of such part of the work as shall not have been terminated by the Notice of Termination shall be made at the times and in the manner provided in Article 6 hereof with respect to partial payments and final payment for the performance of the work.

(f) The Government shall make partial payments and payments on account, from time to time, of the amounts to which the Contractor shall be entitled under

this Article, whether determined by agreement or otherwise, whenever in the opinion of the Contracting Officer the aggregate of such payments shall be within the amount to which the Contractor will be entitled hereunder.

(g) For the purposes of paragraphs (d) (1) and (d) (3) hereof, the amounts of the payments to be made by the Government to the Contractor shall be determined in accordance with the Statement of Principles for Determination of Costs upon Termination of Government Fixed Price Supply Contracts as amended by and set forth in Regulation No. 5 of the Office of Contract Settlement dated September 30, 1944. The Contractor for a period of three years after final settlement under the contract shall make available to the Government at all reasonable times at the office of the Contractor all of its books, records, documents, and other evidence bearing on the costs and expenses of the Contractor under the contract and in respect of the termination of work thereunder.

Article 27. Eight-hour law of 1912

This contract, to the extent that it is of a character specified in the Eight-Hour Law of 1912 as amended (40 U. S. Code 324–326) and is not covered by the Walsh-Healey Public Contracts Act (41 U. S. Code 35–45), is subject to the following provisions and exceptions of said Eight-Hour Law of 1912 as amended, and to all other provisions and exceptions of said Law:

No laborer or mechanic doing any part of the work contemplated by this contract, in the employ of the Contractor or any subcontractor contracting for any part of the said work, shall be required or permitted to work more than eight hours in any one calendar day upon such work, except upon the condition that compensation is paid to such laborer or mechanic in accordance with the provisions of this clause. The wages of every such laborer and mechanic employed by the Contractor or any subcontractor engaged in the performance of this contract shall be computed on a basic day rate of eight hours per day; and work in excess of eight hours per day is permitted only upon the condition that every such laborer and mechanic shall be compensated for all hours worked in excess of eight hours per day at not less than one and one-half times the basic rate of pay. For each violation of the requirements of this clause a penalty of five dollars shall be imposed upon the Contractor for each such laborer or mechanic for every calendar day in which such employee is required or permitted to labor more than eight hours upon said work without receiving compensation computed in accordance with this clause; and all penalties thus imposed shall be withheld for the use and benefit of the Government.

Article 28. Covenant against contingent fees

The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. For breach or violation of this warranty the Government shall have the right to annul this contract without liability or in its discretion to deduct from the contract price or consideration the full amount of such commission, percentage, brokerage, or contingent fee.

Article 29. Reports of espionage, sabotage, or subversive activities

(a) The Contractor shall immediately submit a confidential report to the Contracting Officer of information concerning existing or threatened espionage, sabotage, or subversive activity at any plant, factory, or site at which work under this contract is being performed or at which material acquired, fabricated, or manufactured in connection with the performance of this contract is stored. The report shall contain a complete statement of such information. The Contractor shall instruct its personnel to submit any information which they may have with respect to the foregoing.

(b) The Contractor shall, whenever directed by the Secretary of the Navy or his duly authorized representative, submit such information as it may have concerning any of its employees engaged in work at any plant, factory, or site at which work under this contract is being performed.

(c) The Contractor shall, whenever directed by the Secretary of the Navy, suspend from employment or refuse to employ any person or persons whom the Secretary of the Navy, in the interest of security, may designate.

(d) The Contractor shall insert provisions similar to the preceding paragraphs of this Article in all subcontracts or purchase orders placed under this contract, unless the Contracting Officer shall consent to the omission thereof: *Provided*, That such provisions need not be inserted in any subcontract or purchase order

for standard or commercial items procured under specifications which will not disclose any information which has been identified by the Navy Department as "Top Secret," "Secret," "Confidential," or "Restricted."

Article 30. Davis-Bacon Act

This contract, to the extent that it is of a character specified in the Davis-Bacon Act as amended (40 U. S. Code 276a), is subject to all provisions and exceptions of said Davis-Bacon Act, including in particular the following:

(a) The Contractor and his subcontractors shall pay all mechanics and laborers employed directly upon the site of the work, unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by applicable regulations prescribed by the Secretary of Labor), the full amounts accrued at time of payment computed at wage rates not less than those stated in the specifications, regardless of any contractual relationship which may be alleged to exist between the Contractor or subcontractor and such laborers and mechanics; and the scale of wages to be paid shall be posted by the Contractor in a prominent and easily accessible place at the site of the work.

(b) The Contracting Officer shall have the right to withhold from the Contractor so much of accrued payments as may be considered necessary by the Contracting Officer to pay to laborers and mechanics employed on the work the difference between (i) the rates of wages required by the contract to be paid laborers and mechanics on the work and (ii) the rates of wages received by such laborers and mechanics and not refunded to the Contractor, subcontractors, or their agents.

(c) In the event it is found by the Contracting Officer that any laborer or mechanic employed by the Contractor or any subcontractor directly on the site of the work covered by the contract has been or is being paid a rate of wages less than the rate of wages required by the contract to be paid as aforesaid, the Contracting Officer may (i) by written notice to the Contractor, terminate his right to proceed with the work, or such part of the work as to which there has been a failure to pay said required wages, and (ii) prosecute the work to completion by contract or otherwise, whereupon the Contractor and his sureties shall be liable to the Government for any excess costs occasioned the Government thereby.

Article 31. Copeland Act

To the extent that this contract is of a character specified in the Copeland ("Anti-Kickback") Act as amended (18 U. S. Code 874 and 40 U. S. Code 276c), the Contractor agrees to comply with the regulations, rulings, and interpretations of the Secretary of Labor pursuant to said Copeland Act, which Act makes it unlawful to induce any person employed in the construction or repair of public buildings or public works to give up any part of the compensation to which he is entitled under his contract of employment; and the Contractor agrees to insert a like provision in all subcontracts hereunder.

Article 32. Convict labor

In connection with the performance of work under this contract, the Contractor agrees not to employ any person undergoing sentence of imprisonment at hard labor.

Article 33. Nondiscrimination in employment

In connection with the performance of work under this contract, the Contractor agrees not to discriminate against any employee or applicant for employment because of race, creed, color, or national origin; and further agrees to insert the foregoing provision in all subcontracts hereunder except subcontracts for standard commercial supplies or for raw materials.

Article 34. Labor statistics

The Contractor shall report, and shall by agreement require his subcontractors to report, at such times,in such manner, and covering such matters as the Officer in Charge may direct, such labor statistics, applicable only to the work performed under this contract at the site of the work, as may be required for transmittal to the Department of Labor.

Article 35. Officials not to benefit

No member of or delegate to Congress, or resident commissioner shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

Article 36. Oral modifications

No oral statement of any person whomsoever shall in any manner or degree modify or otherwise affect the terms of this contract and, except as otherwise herein provided, no charge may be made for any extra work or material unless the same has been ordered in writing by the Contracting Officer.

Article 37. Warranty

(a) Except as otherwise expressly provided in this contract, the Contractor warrants all mechanical and electrical equipment to be free from defects of design, material and workmanship, for a period of one year from date of acceptance of the work, and the Contractor, promptly after receipt of notice, shall make good at its expense all defects developing during this period. This warranty shall not operate to defer final payment.

(b) All subcontractors', manufacturers', or suppliers' warranties and guaranties, expressed or implied, respecting any material or equipment used in or a part of the work (whether on equipment of the nature above specified or otherwise) shall be deemed obtained by the Contractor as the agent of the Government and all such warranties and guaranties shall inure to the benefit of the Government without the necessity of separate transfer or assignment thereof; *Provided*, That if directed by the Contracting Officer, the Contractor shall require such subcontractors, manufacturers, or suppliers to execute such warranties and guaranties in writing to the Government.

(c) The warranties and guaranties provided for in this Article shall not extend or apply to Government-furnished material or equipment except as to such work as may be performed thereon by the Contractor.

(d) The remedies provided for in this Article shall not be restrictive of but shall be cumulative and in addition to all other remedies of the Government in respect of latent defects or fraud.

Article 38. Title

Title to all material and equipment furnished by the Government to the Contractor without charge hereunder and not incorporated into the work hereunder shall remain in the Government.

Article 39. Buy-American Act

The Contractor agrees that in the performance of the work under this contract the Contractor, subcontractors, material men and suppliers shall use only such unmanufactured articles, materials, and supplies (which term "articles, materials, and supplies" is hereinafter referred to in this clause as "supplies") as have been mined or produced in the United States, and only such manufactured supplies as have been manufactured in the United States substantially all from supplies mined, produced, or manufactured, as the case may be, in the United States. Pursuant to the Buy-American Act (41 U. S. Code 10 a–d), the foregoing provisions shall not apply (i) with respect to supplies excepted by the Secretary from the application of that Act, (ii) with respect to supplies for use outside the United States, or (iii) with respect to the supplies to be used in the performance of work under this contract which are of a class or kind determined by the Secretary or his duly authorized representative not to be mined, produced, or manufactured, as the case may be, in the United States in sufficient and reasonably available commercial quantities and of a satisfactory quality, or (iv) with respect to such supplies, from which the supplies to be used in the performance of work under this contract are manufactured, as are of a class or kind determined by the Secretary or his duly authorized representative not to be mined, produced, or manufactured, as the case may be, in the United States in sufficient and reasonably available commercial quantities and of a satisfactory quality, provided that this exception (iv) shall not permit the use in the performance of work under this contract of supplies manufactured outside the United States if such supplies are manufactured in the United States in sufficient and reasonable available commercial quantities and of a satisfactory quality.

Article 40. Supersedure

If this contract has been preceded by a Letter or Dispatch of Intent or a Notice of Award, anticipating the execution of this contract, then such Letter of Dispatch or Notice and all rights and obligations of the parties thereunder are superseded and merged into this contract. All acts of the Contractor and the Government and all payments, if any, made by the Government under said Letter or Dispatch or Notice shall be deemed to have been under this contract.

Article 41. Precedence

In the event of conflict or inconsistency between any of the provisions of the various portions of this contract (the reconciliation of which is not otherwise provided for herein), precedence shall be given in the following order, the provisions of any particular portion prevailing over those of a subsequently listed portion:

(1) typewritten portions of the contract;

(2) the Specifications referred to in Article 1 (including all addenda, and mechanical and technical—but not contractual—aspects of incorporated provisions) as specifically amended herein, if amended;

(3) printed provisions of the contract form, including printed provisions of added slip sheets.

Article 42. Renegotiation

(a) This contract is subject to the Renegotiation Act of 1951 (P. L. 9, 82d Congress) and shall be deemed to contain all the provisions required by Section 104 of said Act.

(b) The Contractor (which term as used in this clause means the party contracting to furnish the materials or perform the work required by this contract) agrees to insert the provisions of this clause, including this paragraph (b), in all subcontracts as required by Section 104 of the Renegotiation Act of 1951; *Provided*, That the Contractor shall not be required to insert the provisions of this clause in any subcontract of a class or type described in Section 106 (a) of the Renegotiation Act of 1951.

Article 43. Small-business subcontracting

It is the policy of the Government as declared by the Congress to bring about the greatest utilization of small business concerns which is consistent with efficient production. The Contractor agrees to accomplish the maximum amount of subcontracting to small business concerns that the Contractor finds to be consistent with the efficient performance of this contract.

Article 44. Alterations in contract

The following alterations have been made in the provisions of this contract:

This contract is made under authority of the Armed Services Procurement Act of 1947.

IN WITNESS WHEREOF, the parties hereto have executed this contract as of the day and year first above written.

UNITED STATES OF AMERICA,

By _____

Civil Engineer Corps, U. S. N.,
For Chief of Bureau of Yards and Docks,
(Contracting Officer).

_____
(Contractor)

_____ By _____
(Witness)

_____
(Indicate owner, partner, or corporate office held)

_____
(Witness)

_____
(Business address)

NOTE.—In case of a corporation, witnesses are not required but corporate certificate below must be completed; in case of individual, two witnesses required; in case of partnership, two witnesses required and partnership certificate below must be completed. Typewrite or print names under all signatures.

CORPORATE CERTIFICATE

I, _____, certify that I am the Secretary of the corporation named as Contractor in the foregoing contract; that _____, who signed said contract on behalf of the Contractor was then _____ of said corporation; that said contract was duly signed for and in behalf of said

corporation by authority of its governing body and is within the scope of its corporate powers.

_____(CORPORATE SEAL)

PARTNERSHIP CERTIFICATE

STATE OF_____}
COUNTY OF_____} ss:

On this_____day of_____, 19____, before me personally appeared_____, known to me and known by me to be the person who executed the above instrument, who, being by me first duly sworn, did depose and say that he is a general partner in the firm of_____; that said firm consists of himself and_____; and that he executed the foregoing instrument on behalf of said firm for the uses and purposes stated herein.

_____
Notary Public in and for the County of
_____, *State of*_____

My commission expires:

(NOTARIAL SEAL)

_____

LETTERS OF CONSTRUCTION CONTRACTORS DISCUSSING GOVERNMENT CONSTRUCTION PRACTICES

As indicated at page 207 of the hearings, there is printed herewith letters received from construction contractors discussing Government construction practices, as follows:

LETTER NO. 1

FORT WORTH, TEX., *November 12, 1951.*

DEAR SIR: Mr. ———, representing your committee, was in our office Friday, November 9, 1951, in interest of securing information for your committee to be used in saving the taxpayer's money.

Mr. ——— requested suggestions on contract procedure to be used by the Corps of Engineers in carrying out military construction; namely camps, airfields, road and street construction.

1. We suggest that more thorough study be given to site and plans, in this manner local available materials may be used, saving considerable money on freight and changes of plans during progress of job. Each change delays the job and also causes additional expense in time and money. Plans should be drawn by competent engineers with experience in the particular field the project is in, not using a drainage engineer for plans and construction of runway for an airport.

2. Working time: The time limit for a project should be set up on a basis of economical plant and personnel. Most, or a great majority of projects, spend more time in the planning stage or discussion by engineers than is allowed for the actual construction. This is due mostly to lack of experience of engineers in charge.

3. Specifications: The specifications should be written to fit common practice for locality of project. Not a general specification fitting the entire country, of course, having in mind the results desired, using the most economical materials that will give results required.

4. Size of project: Projects should be broken down into size and parts that will fit plant and personnel of the greatest number of contractors in a particular section of the country, thereby giving the contracting agency more competition on bids, and especially in this manner the contracting agency will have the advantage of securing bids by firms specializing in some particular part of the job, such as building, plumbing, electrical, grading, and paving.

Trusting the above is the information desired, we are

Yours very truly,

——— ———.

LETTER NO. 2

ATLANTA, GA., *November 14, 1951.*

DEAR SIR: Confirming conversation with your representative, Mr. ———, on Tuesday, November 13, we have the following suggestions in connection with the letting of construction work by the Armed Forces, specifically in the Southeastern States.

(1) Large jobs running from $10 to $20 million should be split into a series of smaller jobs, of from $1 to $3 million. We have specific reference to the Marine Depot, Albany, Ga., on which bids are to be asked in December for 10 warehouses and auxiliary work. This would tend to broaden your list of bidders and, we feel, result in cheaper bids to the Government.

(2) In the specifications or invitations to bid, set forth the CMP schedule and/or other rating so that the contractor can determine from his sources of supply the approximate date on which he will receive steel and other critical materials. If the rating is not sufficiently high for the contractor to secure steel and other critical materials in accordance with his schedule, he can so notify the contracting officer and it is possible that this rating may be increased prior to the opening of bids so the contractor need not include any contingency for his delay in securing materials in accordance with his progress schedule.

(3) A tentative schedule showing approximate dates on which various jobs will be ready for bids, covering a period of from 3 to 6 months, would be helpful in enabling contractors to schedule their bidding operations and thus be able to bid on jobs they are best qualified to perform. If this preliminary scheduling indicates a conflict of too many jobs of the same size and type being bid on approximately the same date, interested contractors could call the contracting officer and possibly arrange for this schedule to be modified so as to permit them to bid on more of the jobs, thus insuring the Government better competition and the contractors a chance at a larger volume of the work they are best qualified to construct.

(4) Elimination of so-called negotiated contracts where plans and specifications are complete, bids are received and opened in private, and then the low bidders are called in and the job discussed. We, and most of the general contractors, prefer to have the bids opened in public and if the bid is within the allowable amount, where the contracting officer can make an immediate award, the low bidder be so notified at that time.

(5) We urge that contracting officers continue allowing sufficient time to complete a job without resorting to overtime. At the present time we feel that most Government jobs are being estimated without this expensive overtime. However, should contracting officers require any contractor working on their location to resort to overtime in order to get back on schedule, we feel sure that this will start a chain reaction that will ultimately result in overtime being figured on all Government work and thus increase the final cost to the Government by a very substantial amount.

(6) We suggest that contracting officers be very careful in setting up a penalty clause since the completion date of any project today is dependent upon so many factors that the contractor cannot control, but are the direct result of action by some department of the Government. A penalty out of line with the value of the building and a time element too short for economical construction of the job would cause most contractors to add to their bid a "guess" as to the amount of penalty they would be subject to, and this, with other contingencies in their bid, would add to the cost of the building.

Considerable time was spent discussing our problems with Mr. ———, and in addition to the six major items above, he has our reaction on several minor items. We trust that our suggestions, both oral and written, will be of some help to the committee in their very tough problem.

Very truly yours,

——— ———.

LETTER NO. 3

DALLAS, TEX., *November 15, 1951.*

DEAR SIR: In connection with the recent visit of Mr. ———, one of your staff investigators in the Dallas area, this chapter was requested to submit to you suggestions which we believe would facilitate the construction of defense projects, result in economy to the Government, and simplify the task of the contractors performing such work.

This chapter devoted the major portion of one of its recent regular monthly meetings to an open-forum discussion of this matter and this letter embraces a symposium of the suggestions which were offered by our members for constructive improvement in the defense-construction program.

1. It is suggested that the Government will obtain the most intensive competitive bidding by breaking down projects, wherever practicable, into units to range from $750,000 to $2,000,000 each. This would permit a very large number of highly competent contractors whose capital experience and organization fit them to bid projects within the bracket mentioned, but who would be largely eliminated in competing for projects above $2,000,000.

2. The second most important point mentioned by our membership was the feeling that all bids should be in strict accordance with the plans and specifications. In this connection, it is felt that any encouragement of alternates, exceptions, or qualifications tends to destroy the sound principle of competitive bidding.

3. Bid and performance bonds should continue to be required on all Government work with no exceptions at any time.

4. We believe that Government-bid forms should be simplified, as at present they require too many unit-price-bid items, which actually, in many cases, do not afford any information of value. Bid forms could be simplified to consist of one lump-sum-bid item and, where necessary, limit the number of bid items to absolute minimum. We have found in many cases on Governmental work, as many as 60 or 70 bid items are required.

5. The number of alternates on bid forms should be confined to not more than one or two; or as a maximum, four or five.

6. Recently, contractors in this area have been asked to bid on certain defense projects with the bids based on plans and specifications prepared by or for the Government agency involved, and the contractor is invited to submit bids based on alternate types of construction other than the design on which the bids are advertised; the contractor to furnish the complete detailed plans, if his bid is accepted.

We feel that this is neither a fair nor a sound economic method of letting construction contracts by the Government or anyone else. It is obviously an economic waste since the Government has already paid for one complete set of plans and specifications, and the bidders are each put to the expense of procuring preliminary plans and arrange for complete plans on several varied alternate types of construction, in the event their bids are accepted. All of this entails substantial expense on the part of each bidder.

There has been intense competition and a large number of bidders on all Government work in this area in recent months. The method outlined above, therefore, creates an obvious economic vacuum and is detrimental to the best interest of the construction industry. Since this economic loss must be made up by someone, it is obviously ultimately passed along to the owner, and the Government is the principle owner at this time since private work is sharply curtailed.

The experience in World War II would indicate that it is to the interest of the Government to maintain a sound, healthy construction industry available to meet the defense requirements of this Nation, and anything which weakens the economic structure of the industry, even temporarily, is not in the interest of the Government, in the long run. It further appears that the letting agency ought to be capable of determining the type of design for structure required and write specifications that will fulfill its requirements.

The primary function of the contractor is to build what the Government requires in strict accordance with the Government specifications, and the contractor is getting far afield when he is called upon to originate designs and plans. It is extremely questionable whether the use of this alternate type of bidding is providing fair competition among contractors on public work, and, likewise, it is highly questionable whether the alternate construction method is ultimately an economic method for the Government to get its work performed.

7. The Government has had a habit of calling for bids on many projects within a short period of time, allowing bidders inadequate time to prepare their bids. Such a practice, naturally, limits the competition in that contractors are not able to bid all the projects in their locality, and causes considerable expense in bidding which is unnecessary, and is passed on to the Government. This could be rectified by the Government spreading out the projects to be bid throughout the year in a more even manner. When several projects are put out for bids at one time, a contractor is naturally forced to pass up some of them, which he would otherwise bid if they were not advertised at the same time and bunched together.

8. Under present conditions, there is absolutely no advantage to the Government in specifying liquidated damages, and they should be eliminated.

9. We have found, in many cases, that the Government calls for bids on several projects at different locations, and we believe it would be to the Government's advantage to call for bids separately on such projects.

10. We believe it would be to the advantage of the Government, as well as helpful to the contractor, to allow more time for preparing bids, and we feel that a reasonable period of time should be allowed for bidding. If the Government is not in a position to ascertain what a reasonable period might be, consultation with the contractors would be helpful.

11. Completion dates on projects should be more realistic. We believe this would be helpful to the contractor as well as to the Government.

12. It has been the practice of the Government to disregard the contractors in calling for bids on projects following holidays or week ends. Such a practice is expensive to the Government as the additional cost is naturally passed on to them. In many cases, it is impossible to get prices from subcontractors on account of the holidays.

13. Contractors should be notified of contract awards at the very earliest possible date. If such is impossible, then it would be to the Government's advantage, as well as the contractors', for the Government to notify the contractor of its intent to award a contract.

14. We believe that when the Government advertises for bids, it would be helpful to give the contractors some idea, in the way of an estimate, of the approximate amount of the contract involved. If this information were furnished, along with the physical description of the project, it would, in many cases, bring more bidders to the Government.

Yours very truly,

———— ————.

LETTER NO. 4

ST. LOUIS, MO., *November 6, 1951.*

DEAR SIR: I was interviewed yesterday by your Mr. ———— relative to my thoughts and views pertaining to the relationship between the Government and contractors in awarding various construction projects.

I gave Mr. ———— my views pertaining to certain phases of the contractor's relationship with the Government and he requested that I write them out in letter form, which I will attempt to, very briefly, do.

First, I would like to suggest that greater economies might be effected if the Government were to break down into smaller contracts, some of the very large contracts which are now negotiated or are restricted to a very few of the larger contractors or a combination of larger contractors. Even though defense work is on the ascendency, correspondingly, nondefense work and private work is definitely on the wane and there are a very substantial number of contractors that are practically being forced out of business because they have no work upon which to bid. Certain contracts lend themselves very well to being split up; such as, on a large building project, taking separate bids on the site work, which work would include such items as exterior sewers, grading, paving, culverts, etc. The building items could be taken as a separate-bid unit and similarly should there be any bridges, small bridges, flood-control work on the building project, that might very advantageously be let separately, because generally, contractors who follow that type of work are not interested in building work. I do not believe there is any question but what more bids would be received by the Government and also cheaper bids because of the increased competitive situation. There is this attendant difficulty, however, in that by breaking the various contracts down into smaller units it imposes more of a burden on the contracting officer to properly coordinate the various independent contractors which normally would be the function of one large general contractor covering the entire project. Of course when the large general contractor does handle the entire project he, of necessity, will add on additional sums of money and quite justly so, for handling this additional work. The question is, however, whether he adds on more than a reasonable overwrite on the various independent subcontractors.

The second item that I think might be considered would be that in making an appraisal of the job cost and the time required for it, the Government might be a little more realistic in certain phases of the work. On certain jobs the speed with which the work was demanded to be finished was so great and the penalty for the noncompletion within the specified time was so great that the only alter-

native the contractor had was either to add in a large penalty factor in his bid or to secure enough equipment, manpower, and construction facilities to get the work done regardless of cost. This latter procedure, of course, entailed extreme high-unit costs for the various phases of the work. For example: instead of putting on maybe, 10 tractor and scraper units, one might have to put on 100 tractor and scraper units to get a specific job done. In this connection of course, the contractor reasons that he has to bid the work sufficiently high because even if he presumably makes considerable money on a particular job, he is subject to renegotiation and then after that the remaining profits, if any, are very heavily taxed. Whereas, on the other hand, should be put in a very competitive figure and possibly lose money, he of course, has no chance of recovering same from the Government and he is definitely out of pocket his losses.

The third suggestion I have to make is that in an emergency, such as we are presently engaged in, that the contracting officer be given more latitude for making decisions that must be made immediately on the job for the sake of economy. As it is now, generally speaking, the contracting officer has to secure approval from the Chief's office on items of work beyond the pale of the specifications. Oftentimes this attendant delay means additional cost to the contractor and in the completion of the job as a whole. Naturally, this increased authority for the contracting officer can be abused if said officer is not a man of integrity and honesty. That, however, poses another problem pertaining to morality of men representing the Government.

Fourthly, I believe that in certain instances some of our construction work, which is presumably, of a temporary nature, has been overdesigned, necessitating additional cost. Generally speaking, the specification requirements for materials and workmanship on work performed by the Government is of the very best in quality and, naturally, this entails a higher unit cost. I am well aware that generally speaking, one gets only what one pays for and if you demand higher quality and are willing to pay for it you do have a superior finished product. Generally, I agree with this policy on the part of the Government, however, I believe there are certain types of construction which of necessity are of a temporary nature wherein some of these stringent restrictions might be relaxed and thereby secure a better bid. The fifth suggestion that I have to discuss is one that is very difficult to solve. It concerns the matter of inspection of the contractor's work by properly qualified, practical construction inspectors. There is nothing so distressing and costly to a contractor as having a man inspect his work who is not familiar with the practical aspects of the work, but is only familiar with what he can read in a set of specifications. I do not mean to infer that the contractor is supposed to get around the intent of the specifications, but on the other hand, in numerous instances, an inexperienced inspector and an impractical one, can crucify any contractor on any set of Government specifications if he so desires. Naturally, in the current labor market, the Government is short-handed of qualified personnel just the same as the contractor or any other employer. I am aware that the Government officials would like to have more qualified men supervising their work, but simply due to the demand for qualified men everywhere, they have to put up with less desirable employees. I presume time will correct this situation. I would like to add, however, that in practically all cases the top officers and the top men in all branches of the United States Engineer Corps, with whom we have had contact are very qualified and very conscientious men of integrity. They are rigidly pinned down, so to speak, by the specifications and United States Government procedure and occasionally, cannot do the morally right and proper thing with the contractor simply because under the terms of the contract and the specifications, they have no legal right to do so.

Please understand that I have no "axe to grind" with the Government and the foregoing statements are made not only to express my views as a contractor, but also to express my sentiments as a taxpayer and citizen of our excellent country. I believe that we should all be extremely zealous in conducting ourselves not for our purely personal gains, but in the larger scope of doing that which is best for our country.

Very truly yours,

——— ———.

LETTER NO. 5

CHARLOTTE, N. C., *December 4, 1951.*

DEAR SIR: Recently Mr. _____, of your staff, called at this office to ascertain the results of our experience in dealing with Government contracting agencies. In accordance with his request, we are confirming herewith some of the principal points covered in the interview.

1. In connection with contracts including liquidated-damage clauses for late completion, we sometimes find it necessary to add contingencies to cover such items when the allotted time for completion does not seem adequate. The Navy is practically the only agency that regularly includes such clauses.

2. We are currently performing a contract with the United States Army Engineers, where there is an unusual amount of confusion resulting from many changes in plans. This has been a costly experience for us as contractors, due to the difficulty in negotiating change orders with the contracting officer. One of the apsparent reasons for these changes is the lack of efficient liaison between the using ervice (Air Force) and the designing service (United States Army engineers).

3. In cases where the contracting authority is also the designing or supervising engineer, it is frequently very difficult to obtain unbiased decisions in questions of interpretations of plans and specifications. Unless some system of inspection could be set up through an independent engineering service, we feel it would be necessary to add contingency items to future bids to compensate for the natural unbending attitudes of contracting officers in such cases.

4. We are continually seeking opportunities to submit competitive bids on any Government construction contracts that come within the scope of our operations, however there have been comparatively few projects advertised recently that fall in a bracket below $1 million. The policy of advertising contracts in very large blocks has the effect of eliminating from competition, not only this company but many other capable contractors whose capacities do not reach the $1 million level. We feel that action aimed toward inclusion of a wider range of bidders would be in the interest of the Government.

We trust that some of the above information will be of benefit to your committee in determining future Government policies.

Yours very truly,

_____ _____.

LETTER NO. 6

ST. LOUIS, *November 1, 1951.*

DEAR SIR: This is to confirm the conversation with Mr. _____ this morning regarding building construction contracts for the United States Government.

Our observation has been that this work is parceled out in amounts larger than we can handle both from financial and staff point of view.

It is our opinion, if this work were broken down in smaller amounts around $1,000,000 for example, a greater number of contractors could submit bids thereby getting better competition.

Yours very truly.

LETTER NO. 7

ST. LOUIS, MO., *November 7, 1951.*

DEAR SIR: Your Mr. _____ asked me to write to you with reference to submitting bids on Government work. We would much rather submit bids on jobs ranging from $50,000 to $1,000,000 rather than those from $1,000,000 and up.

We feel that the Government would get many more bids on each job by breaking them up into smaller parcels.

Very truly yours.

LETTER NO. 8

DALLAS, TEX., *November 6, 1951.*

DEAR SIR: Complying with Mr. ----------'s request while he was in our office last Saturday morning, reference to various items of discussion regarding military defense construction in the Southwest. We wish to further state:

This company has in the past year completed two military projects * * *.

Reference to plans and specifications we find that the plans furnished on the above projects have been somewhat complete although we had several change orders. We find the field inspection was good and full cooperation from the United States engineers and his personnel was good.

We have had no difficulty to speak of in obtaining materials for the work we have performed but we must protect ourselves with contingency cost in future bidding on account of the scarcity of steel products.

We also wish to state that due to the fact that most of these projects are advertised with one wage scale which is the building scale, therefore, the union scale and cost of the project therefore increases considerably, as we have to use such scale to do the engineering features, such as underground utilities, grading, etc. It has been the custom up to now in the Southwest for all projects to have two wage scales, one for the building crafts and one for the heavy construction work which is now open shop, therefore a lower scale.

As to the size of projects we have bid on to date we find them to be alright and within the ability of the contractor to finance their contracts in a reasonable time, however, we have investigated several projects that have run as high as $25,000,000 and we feel that this is poor judgment on the part of the Government on account of eliminating capable competition among the builders, therefore, possibly a high cost for the project to the Government.

We also feel that there is not enough thought given to the details on the plans and specifications and as a result this runs into additional expense both to the owner and the contractor on unnecessary delays for the owner and additional cost to the contractor.

We also wish to state that some projects come out for bidding with very high cash penalty attached for what we may say is unreasonable time completion and thus the contractor must protect himself against this penalty by adding this cost to the estimate.

We believe the above statement just about completes the request that Mr. ---------- asked for.

Very truly yours.

LETTER NO. 9

CHARLOTTE, N. C., *November 16, 1951.*

DEAR SIR: Your Mr. ---------- was in our office this date and we discussed various phases concerning construction, cost of construction and possible ways of economizing as far as our trade is concerned. I expressed the belief that if contracts were continued to be let in small amounts (two or three million dollars) that you would benefit greatly by the heavy competition in this size project. As far as the plans and specifications are concerned, we believe that they are excellent. The documents on the jobs that we have bid were very clear which makes them a pleasure to figure.

We wish you and your committee every success and hope that our views may be beneficial.

Yours very truly,

LETTER NO. 10

DALLAS, TEX., *November 7, 1951.*

DEAR SIR: It was a pleasure to have your Mr. ---------- visit with us for the purpose of discussing the future construction programs of the Defense Department.

We suggested to Mr. ---------- that from our earlier experience with Federal contracts, our greatest criticism is aimed at failure on the part of the contracting officers to separate various types of construction into units for award of contract to those more or less specializing in the several fields involved. Thus, instead of awarding a single contract for the construction of a sizeable installation, it certainly would be economical and probably more expeditious if roads and utilities

were bid separately from the building units. The advantages are too numerous to mention here.

The matter of waste, carelessness, inefficiency and general lack of enthusiasm for their jobs on the part of many Government employees should become the subject of considerable study on your part. This statement is based on our association with various military offices during the period of 1940 to 1943, but we believe our criticism would still apply.

Thank you for the opportunity of submitting a suggestion.

Yours truly.

LETTER NO. 11

BOSTON, MASS., *November 6, 1951.*

DEAR SIR: This letter is being sent at the request of Mr. ---------- of your staff who visited our office in Boston last week.

We recognize the need for retrenchment in certain lines of construction and have been pleased to cooperate with defense agencies in bringing about a maximum effort by all general contractors towards the accomplishing of the goal set by the Government.

We find little fault in the methods used by the Government procurement agencies in the awarding of construction contracts, though some of our members have felt that all jobs should be opened to competitive bidding. Payments for work performed by general contractors have not been made as speedy as some of our members would like to have them be made.

We are very sure that the construction industry cannot comply with the Government price regulation CPR 34.

We cannot understand why the Government would permit certain construction projects to proceed a year ago and only recently bring about regulations which either slow down or halt the work which had received original permission to proceed.

Though we have received prompt and courteous attention from all defense agencies in this area, we cannot rationalize or understand why steel, copper and aluminum allotments should be drastically reduced in the fourth quarter period of 1951, for hospital, schools, homes and roads when the industries manufacturing luxuries are permitted to go ahead without any apparent loss in production.

Though some adjustments have been made by DPA in the first quarter of 1952, in steel, copper and aluminum allotments, for these essential projects, there has not been a sufficient adjustment to prevent a dislocation of work for general contractors in the building construction industry.

Also, if wages are frozen or regulated through WSB, immediate and prompt steps should be taken to enforce these orders, so that the pirating of labor in our industry could be reduced to a minimum.

In order for all general contractors in the construction industry to give of their best efforts, to the Government's defense program, and to feel that all are part of this patriotic effort a place in the program should be found for the small contractor.

Very truly yours.

LETTER NO. 12

DALLAS, TEX., *October 31, 1951.*

DEAR SIR: Confirming our comments to your Mr. ---------- of this date, we state as follows:

We would suggest that the total amount of contracts included in one bid be reduced so as to run to about $500,000 to $1,000,000. This would give the medium size contractors an opportunity and desire to bid. This can be accomplished by grouping a less number of buildings in one bid. There are a larger number of medium size contractors than large contractors who could bid on 2 to 10 millions dollars worth of work. Also they could divide their risk by bidding on two or more smaller jobs.

We would further suggest that the engineers give more complete description and the approximate estimated cost of a project on which they are inviting contractors to bid. The contractor could then tell if he can and wants to bid on the project.

We would further suggest that plenty of time be given to prepare the bids after the plans are released, approximately three weeks and more on larger projects.

We would further suggest that roads, paving, exterior grading be let in separate contracts from the building unless this is a minor item.

Yours truly.

LETTER NO. 13

ATLANTA, GA., *November 14, 1951.*

DEAR SIR: This is to acknowledge a visit to this office by your Mr. _____. Mr. _____ has asked us to sum up in writing what we told him verbally and that is the purpose of this letter.

Generally, we feel that there is some confusion in the letting of defense contracts due to the rush that everyone seems to be in. This rush is resulting in inadequate and indefinite plans and specifications and is probably causing some contractors to add contigencies to their bids. It would be our suggestion here that more time be allowed both for the planning of these projects and also for the bidding of the same. In answer to Mr. _____'s question as to whether the designs we had seen were wasteful this is to advise that while we are not designing engineers we do believe that the services in their construction work could cut down considerably on the use of such materials as steel, copper, etc. The greatest need with reference to these scarce materials is a revision of American designing methods which would stress our materials more. This is being done in foreign countries and they are getting a great deal more for the amount of material expended. In comparison with European practices, American designing practices are very wasteful.

With reference to the type of personnel we run into in contacting the Government Services we find them to be very much like personnel in private industry—some being very capable people and some not. However, it has never been our experience to run into any group in these Services that was not, in our opinion, making an honest effort to do a good job.

This about covers the scope of the writer's discussion with Mr. _____.

Yours very truly,

LETTER NO. 14

ST. LOUIS, MO., *November 1, 1951.*

DEAR SIR: Yesterday Mr. _____ called on us with a view to obtaining reasons for our disinterest in bidding on and securing Government construction work.

In the past we have done considerable construction for all Departments of the Armed Forces, but for the past several years we have had very little interest in any Government work occurring in this area. The principal reason for our disinterest is that we have had a sufficient volume of other business to keep us occupied, and since we would rather have private business than Government business, we have made no attempt to obtain Government work. In addition to the fact that we have been otherwise busy, there is another principle reason why we now find Government work less desirable than private, and that is most frequently time limits are stipulated in the specifications and contracts for the completion of the work. It has been our experience that these time limits are most generally difficult to meet. The specifications usually provide that failure on the part of the contractor to complete the work within the time as specified results in a penalty being assessed against him, and the right is reserved to the Government under the specifications to compel the contractor to work his forces in shifts, Saturdays, Sundays and overtime, if necessary, to complete the work within the specified time. This condition is full of risks to the contractor and invariably must provide a "cushion" in his bid to compensate him for any demands made on him by the Government in enforcing such conditions.

Another reason why we are not too interested in Government work is that the processes involved with the additional "paper work" make it less desirable than private work. This statement requires some qualifications, but we believe you will understand what we have in mind.

We have not attempted here to make this appear to be a statement of the trade, and it is hoped that you will accept this as the opinion of an individual.

Yours very truly.

LETTER NO. 15

FORT WORTH, TEX., *November 8, 1951.*

DEAR SIR: I had the pleasure of an hour long interview and discussion with your Mr. ---------- relative to expenditures of funds appropriated by your committee.

I was happy, indeed, both as ---------- and as a taxpaying contractor, to advise Mr. ---------- that in my opinion money in this territory is being expended economically and conservatively. We, of course, are very much in favor of competitive bidding by the jobs in this territory.

In line with our discussion Mr. ---------- asked me for any comments that might be beneficial in awarding future jobs, etc. One point of consideration to me personally would be the penalty clause contained in lots of contracts. I feel this clause should be rigidly enforced or completely deleted. In some instances contractors merely place contingencies to cover any penalties sustained and hope that they may be waived either by extension of time or by a considerate project engineer. As you see, this would cause an uncertainty as to whether or not a contractor would have to pay any liquidated damages or penalty. Our firm recently submitted an offer on an emergency-type project which, in my opinion, was handled wisely. Bidders were asked to submit an offer for the completion of this project as of a certain date, another offer 30 days later, and another offer at still a later date. In case of an emergency this type of proposal seems very fair providing the contractor lives up to his completion date.

Rather than a penalty clause it seems to me there could be, as there are in most of the contracts, a clause that would force the contractor to work necessary overtime to stay within a rigid schedule. This way the using service would have the project and then there would be no penalty clause involved, thereby eliminating any contingencies or politicing to avert payment of same.

In closing, as a taxpayer I am glad to see this interest shown by the Appropriations Committee and offer my assistance in any way.

Very truly yours.

LETTER NO. 16

ST. LOUIS MO., *November 7, 1951.*

GENTLEMEN: During my visit with Mr. ---------- while he was in St. Louis, he asked me to write the committee giving my opinion of the new type of proposal, which does not require a bid bond, in lieu of the regular form of bid which did require a bid bond.

It is my feeling that the proposal form without bid bond leaves the way open for irresponsible bidders to make a proposal, since they are under no obligation, in the form of a bid bond, to carry out the proposal that they make. They can refuse acceptance of the job if they feel they are too low, and the Government could do little about it as the bidders have given no guaranty in bond form.

The responsible contractor makes every effort to submit the best bid he can, and furnishes a bid bond indicating that if awarded the work, he will furnish a performance bond. The responsible contractor in making a bid on the bondless proposal form, would not be inclined to give his best bid at the start, because after bids are opened other bidders are in possession of all the figures, and the low bidder is then the target at which unethical bidders may shoot. Therefore, under this system I do not believe the Government would get the best types of contractors to make their lowest and best bids, unless the proposal carried the bid-bond requirement, as has been done previously.

From past experience, it has often been shown that the low bidder is not awarded the job, as a form of auction appears to be used to arrive at the final award. We have found that in some cases, it has been the third or even the fourth bidder who has finally been awarded the contract. Most contractors would be hesitant to give their best bid at the start, under the proposal form, as they would wait to see how the proposals run.

Mr. ---------- also asked for my opinion on penalties. I do not believe that the penalty clause is too successful, because the experienced contractor takes the penalty clause into consideration when making up his bid. If he realized that it would probably be impossible to complete a project within the time specified, he would add part of the penalty to his bid in order to allow for the overtime needed to complete the project. Taking everything into consideration, I do not feel that

the Government saves funds by placing the heavy penalty clause on completion dates. With the present uncertainty on delivery of materials, I do not believe the penalty clause serves any purpose.

The experienced and responsible contractor is always anxious to get his work completed as quickly as possible, knowing full well that he will make a greater profit when the work is completed quickly. A contractor cannot make a profit on work which drags. If it is shown that the contractor has made every effort possible to complete his work on time and has done everything under his power to get his men and materials on the job, then to place a penalty on the job would seem unfair.

Penalties are quite often improperly handled, as the experienced and responsible contractor is penalized when he has made every effort to complete his work, although the Government representative often does not act after taking all these things into consideration.

I believe that the choice of a responsible contractor in the first instance by taking bids under bond would make it unnecessary for the Government body to award a contract by the negotiated form of bid, or to insert heavy penalties for noncompletion at a certain date.

Yours very truly,

LETTER NO. 17

DALLAS, TEX., *November 5, 1951.*

DEAR SIR: Your Mr. _____ called at our office on November 2, 1951, and asked that we comment on the ways and means by which Government contracts are being let at this time. We have had only one recent experience in bidding Government construction work, but from discussion of various projects with other contractors and district officers of the Corps of Engineers, we would like to make the following observations:

The bid date for the one job we recently bid (for the Corps of Engineers, U. S. Army) was postponed three times for revisions to the plans and specifications. When the final revised plans were received we found that major alterations had been made, reducing the size of some of the buildings to a great extent, and we should think the agencies concerned should have knowledge of just exactly how much floor space was required before the plans are prepared and distributed to contractors for preparation of bids.

Also on this particular project complete information concerning the depth of the foundation footings was not shown on the plans, and to protect himself, the low bidder qualified his bid to the extent that his bid was based on a maximum depth of 4 feet 0 inches. The plans provided for a minimum depth of 4 feet 0 inches, but gave no indication as to the exact elevation of the bottom of the footings. As a result of this qualification, brought about by incomplete plans, to our knowledge no award of the contract for this project has as yet been made, although bids were received on October 16, 1951. Plans for this project were first distributed to the interested bidders on or about September 1, and the first date for receiving bids was set for September 18, 1951. To date, some 48 days later, no contract to our knowledge has been awarded. Due to the rapid change in labor conditions and prices of materials, such extended delay could materially affect the contractor's estimated cost of the project, and in anticipating such delays the bidders must necessarily protect themselves by making an allowance in dollars and cents to offset any such probable cost to them.

We now have before us, out of the Corps of Engineers' office, preliminary plans for a project estimated to cost approximately $6,000,000. We are advised complete working drawings prepared by a local engineering firm will be ready for distribution to the prospective bidders within a few days. Such a set of drawings and specifications we believe will cost the Government at least $75,000. The preliminary specifications permit the prospective bidders to prepare and submit alternate plans, incorporating therein the basic requirements of the plans distributed by the Corps of Engineers. Should the prospective bidders desire to submit an alternate plan and should the awarding authority decide such alternate plan is preferred, the bidder must then prepare a complete set of working drawings and specifications for the final approval by the awarding authority and for his use in constructing the project. Such a set of working drawings and specifications would cost the contractor, in our opinion, a minimum of $50,000, which cost would necessarily be included in his bid for the project, and should the awarding authority award a contract on the basis of the alternate plans submitted by

the bidder, at least the cost of one set of plans prepared for the same project would be a total waste. We believe a set of preliminary alternate plans, which must accompany the bidder's bid, would represent a minimum cost to the bidder of some $5,000 and should 8 or 10 bidders desire to submit their own alternate plans, an estimated $50,000 would have been spent by the bidders in preliminary work only, with the full knowledge that only one bidder's alternate plan can be accepted, and that after the awarding agency has already spent some $75,000 on preparation of plans for the project. To us this is an unjustifiable expense to ask the industry to bear and certainly does not tend to curb inflation. This loss to the industry must eventually be paid by the awarding authorities of the Government or by owners of private construction projects. Such items as cost of preliminary alternate plans can only be considered as additional overhead and certainly must be added into the contractor's selling price. Certainly, in our opinion, awarding authorities should definitely decide before inviting contractors to bid their work, the size and type of buildings required and the exact needs and type of construction to make the buildings functional.

We were asked by Mr. ——— if in our experience we had noticed any unusually large amount of money being spent within an unusually short period. From our observation we have noticed that during the month of June a large number of awards are made after brief negotiations.

In conclusion, we believe that considerable savings both to the awarding authorities and to the construction industry can be effected if the awarding authorities will include in the plans and specifications all necessary information and data for compiling accurate costs of the projects. We believe that additional savings can be effected if the awarding authorities will determine in advance of distribution of plans to bidders the definite type of construction most economical and advantageous for the projects and not invite the bidders to submit alternate plans or design of projects without any knowledge whatsoever of the proposed functional uses of the projects. If the awarding authorities are not willing to assume this responsibility or if their organizations are not capable of making these decisions, then in our opinion the services of civilian architectural and engineering firms should be engaged.

Respectfully submitted.

———— ————.

LETTER NO. 18

DALLAS, TEX., *November 5, 1951.*

DEAR SIR: Having met your agent, Mr. ----------, in Dallas and discussing the House Appropriations Committee's interest in the Department of Defense construction program, was most gratifying to us as taxpayers and as members of the construction industry. To aid in this investigation, we have only a few comments or suggestions to offer:

In June 1951, there was considerable peaking of blueprints received for bidding. The average construction company did not have sufficient manpower to handle the great quantities of proposed work. Since the last peaking period the proposed work has been released more systematically.

From the industry's viewpoint, the reduced blueprints as published by the Army engineers for estimating purposes are not satisfactory. Reduced blueprints create a definite handicap to an estimating department, and, in effect, increase the cost of construction.

The bidding date of proposed work should, whenever possible, be scheduled any day of the week except Monday. Also, as a matter of personal opinion and as general contractors, we believe that an economy could be achieved by having separate proposals on the various phases of work. We believe the general construction should include everything concerning the building, with all utilities extending 5 feet outside the building lines. All other work at the proposed building site to be let under separate contract (i. e., railroad, dirt work, paving, electrical and mechanical distribution systems). We realize that in complicating the method of handling contracts, the additional detail work might offset the savings in the original contract.

When the Department of Defense first advertised for bids the allotted time for construction seemed incredibly short. This allotted time has been readjusted and on the last proposals submitted to us, the time was satisfactory. This allotted time depends, in its entirety, on the Government's priority system.

We were asked in detail about materials specified on Government work. We have no comment on specified material as good construction principles have been

utilized in 98 percent of the blueprints we have examined. The writer personally noticed the extensive use of metal roof decking on warehouse construction—criticism of the item is mentioned only on the grounds of availability.

By and large and with the knowledge that the Corps of Army Engineers is supervising the Armed Forces construction work, we are of the opinion that it is being judiciously and credibly expedited. Our few suggestions or observations are to be construed strictly in the light of a construction company wanting to do more business with the Corps of Engineers. We are very glad to see little negotiated work or mammoth projects requiring negotiation. Without reservation, we believe to build by firm contract for efficiency and economy to the Government.

Yours very truly,

LETTER NO. 19

FORT WORTH, TEX., *November 7, 1951.*

DEAR SIR: In line with conversation with your Mr. ———, I wish to confirm information given him verbally this date regarding construction contracts for the Army, Navy, and Air Force.

As told to your Mr. ———, I have had many contracts covering Government work particularly through World War II when we were engaged in airfield and runway construction, rehabilitation, and maintenance at various points in Texas and New Mexico. Most of these contracts were handled directly with the United States Army engineers out of the Galveston and San Antonio, Tex., offices, and the Albuquerque, N. M., office of the Army engineers. I did have two of three smaller contracts directly under the Bureau of Yards and Docks, and many maintenance contracts with post engineers and contracting officers at various Army bases.

In answer to Mr. ———'s question regarding dealings with these various Government agencies, I wish to advise that my experiences with them have been most satisfactory, and I would say their handling of engineering problems from beginning with issuing of proposals, invitations to bid, and plans on through the actual construction of the projects has been in a most efficient manner. There has been, of course, times when there were differences between our supervisors and the inspectors in charge of work for the engineers, but to my knowledge there were never any differences concerning plans and specifications and construction procedure that were not worked out in an amicable manner.

Since World War II, I have received invitations for bids on a number of projects and have had construction contracts at Carswell Air Force Base, Fort Worth, Tex., Fort Sill Army installations, Fort Sill, Okla., and Gray Air Force Base, Killeen, Tex., along with smaller projects at Consolidated aircraft factory, Fort Worth, Tex., and Chance Vought aircraft factory, Grand Prairie, Tex., and others where the work was supervised by Government agencies. These contracts have been satisfactory in every respect insofar as I am concerned. There has been times, particularly just prior to the close of the Government fiscal year on June 30, when invitations and proposals would be issued in such numbers that it was impossible for me to inspect and place bids on all work in which I was interested in bidding; however, it is my understanding that the cause of the peaking of the letting of contracts, as above mentioned, has been corrected and that the taking of bids can and will be done by spacing of contracts over a longer period of time. This I think would be to the advantage of the Government as well as the contractors, and would permit more competition on various projects. As explained to your Mr. ———, there has been one or two instances in the letting of contracts which would not seem to me to be in line with the usual procedure in such cases. One of these was a small paving contract at Camp Wolters, Tex., in the spring of this year. At that time my shop, warehouse, and equipment yard were located in Camp Wolters, Tex., on property which was purchased by me in 1949, and in the particular instance above referred to the contract was negotiated for underground utilities, base and paving on an area directly across the street on two sides of my property. I was qualified to do this type of work and my file in the United States Engineer's office at Fort Worth listed these qualifications. My organization was not consulted in any way in connection with the negotiations for this work. We were advised at a later date that a contractor, who ordinarily did water, sewer, and other types of underground utilities, was also given that part of the contract, mainly paving, which we are specifically qualified for and prefer. We were requested by this particular con-

tractor to give them a subcontract bid on the paving part of the work which we did. We, however, were not given consideration on same. This matter was brought to the attention of the Engineer's office, and I am convinced that it was a matter of oversight in not taking us into consideration on this particular job. Since that time our property has been taken by the Government on condemnation and we are no longer located at this particular site. Since that time we have received a number of invitations for bidding on construction projects under the district engineer at Fort Worth, Tex., a number of which we were not interested in in view of the fact that they were types of construction which we do not do, and we have made every effort, and we will continue to make every effort to give competitive bids on any and all types of construction for which we are qualified and on which we receive invitations to bid.

As explained to your Mr. ———, our cost of handling of Government contracts due to so-called red tape, Government reports, and many other items not necessary in ordinary construction, would be increased considerably in a full-scale operation of work of this type. I am not in position to question the reasons for such increased cost and I do know that in time of war, such as World War II, and in a rush period of preparedness for war, cost cannot be considered a major factor.

By way of confirmation of verbal information given your Mr. ———, my operations are limited and at the present time my bonding and financial capacity would approximate $2½ million.

My organization has, as I am sure other construction organizations have, tried to keep our operations at a point the past year and a half where in an emergency we could go all out on defense construction on very short notice.

I think that this covers pretty well the inquiries made by Mr. ———, and I will at all times be available to give any information possible and assist in any way possible in eliminating or cutting down unnecessary Government expenditures.

Yours very truly,

——— ———.

LETTER NO. 20

CHARLOTTE N. C., *November 19, 1951.*

DEAR SIR: Your representative, Mr. ———, called on us on November 15 in search of information regarding construction work in connection with the defense program. We were more than glad to furnish any information or ideas that we felt might be beneficial, and were pleased to know that your committee had seen fit to adopt this method of securing information.

In our conversation with Mr. ———, we brought out that we believed speed of construction and economy could both be effected by letting separate contracts for the construction of utilities instead of the general contractor handling these items.

Of course, being in the utility field, our thinking may have been a little biased, but it has been our experience that on Government work where water and sewer distribution lines, sewage-disposal plants, water-filtration plants, roads, streets, etc., were handled by separate contracts to utility contractors specializing in those types of work, the Government not only obtained considerable saving but secured much better work in less time and with less confusion. Even where an entire project is handled by one general contractor on a fixed-fee basis, we believe that the general contractor should be allowed, or instructed, to award separate contracts for the utilities.

It is our conviction that opinions similar to those expressed above are held by the majority of all types of contractors, including the generals.

We thank you for the opportunity to make these comments, and remain,

Yours truly.

LETTER NO. 21

EAST ST. LOUIS, ILL., *November 2, 1951.*

DEAR SIR: As per my conversation with your Mr. ———, I would like at this time to confirm said conversation in writing. The reasons, I, as a general contractor, have not bid on proposed Government work in this area, are as follows:

First. The Government setting out a prescribed number of calendar days in which to have the contract completed, when existing conditions such as weather,

jurisdictional disputes beyond my control, etc., do not permit contracts to be finished on schedule.

Second. The Government setting out a penalty clause for a stipulated amount of money to be deducted from the contract for each day over the prescribed number of days of the contract.

Third. In the event that a reputable contractor should complete said job ahead of schedule there should be a bonus clause or some means of a monetary allowance made in favor of the contractor. In a contract, legal and binding, said contract should work both ways for both parties concerned.

Very truly yours.

LETTER NO. 22

BOSTON, MASS., *November 1, 1951.*

DEAR SIR: The following statements relative to procedures represent my views as a contractor on certain phases of the award and conduct of Defense Department construction contracts. I believe these are worthy of consideration for change and improvement.

1. *Rigidity of procedure.*—There are certain procedures required both in the bidding and the conduct of the work which prevent a contractor from carrying out construction in the most effective and efficient manner. These are in the field of technical details which have become set practices and which in many cases do not allow of the use of the more up-to-date methods of performing the work. It is believed that a study conducted by the technical divisions of the defense services, the American Institute of Architects, and the Associated General Contractors would bring about improvements.

2. *Area requirements.*—Many of the requirements set up in the specifications and plans are based on a country-wide requirement. In other words, what may be considered proper construction for a section like Maine would not properly apply in States like Georgia or Florida.

3. *Requirement of alternates.*—There is a growing tendency to require a larger and larger number of alternates to be submitted with the bids. An undue number of alternates tends to confuse the bidder and does not establish in his mind the basis on which the awards would be made.

4. *Processing of changes.*—It has been the experience of contractors in a number of instances that the contracting officers do not promptly process changes. Under the contract terms the contractor is obliged to proceed with the work, and in some branches of the services the contracting officer is allowed up to 18 months in which to process such changes. In some of the instances referred to, this has worked a decided hardship on the contractor, first in the uncertainty as to whether the estimates for changes will receive favorable consideration, and, second, as payment on these changes is not made until the changes are approved, this delay often strains the contractor's financial resources.

In making the above suggestions, the writer is fully cognizant of the fact that there must be fixed rules of procedure and the specifications must be adhered to. There are instances where sensible variations could be made at the discretion of the division engineers or the contracting officer, which would be of distinct benefit to the progress and, at times, the character of the work. The writer is not in a position to state the latitude that should be granted to the division representative or the contracting officer, but it is his opinion that the overhauling of regulations on this point could produce a more flexible working procedure.

Very truly yours.

LETTER NO. 23

ST. LOUIS, MO., *November 7, 1951.*

DEAR SIR: In response to a request by your Mr. ——— who the writer talked to yesterday, we are submitting suggestions that in our opinion if placed in specifications on Government work for grading, paving, levees, etc., which is our line of work, would lead to a better price and in turn be more economical for the contractor.

1. *Time limit on jobs.*—Most Government specifications have calendar days as time limit. Some of them have a short working time which necessitates an enormous amount of equipment on some large jobs which restricts the bidding to a few contractors who own a large amount of equipment and requires a moderate-

size contractor with say five or six large pieces of dirt-moving equipment to rent or lease additional equipment required for particular jobs on short-time limit. Our suggestion would be to use a working day instead of a calendar day time limit. A working day is defined as any day when, in the opinion of the engineer, soil and weather conditions are such as would permit any then major operation of the project for 6 hours or over unless other unavoidable conditions prevent the contractor's operations. If conditions are such as to stop work in less than this time, the day shall not be counted as a working day.

Saturdays, Sundays, national holidays, and legal holidays shall be excluded from the count of working days unless the contractor utilized such a day as a working day as indicated above. The count of working days shall start on the date the contractor starts construction operations and in any event not later than the date specified in the notice to proceed. The engineer shall be the sole judge of the number of working days to be charged under the contract.

2. *Size of jobs to be let.*—On large dirt jobs, if it would be feasible to split them into bidding sections of from 200,000 to 500,000 cubic yards of dirt to be moved under each contract with a reasonable amount of working time, we believe that more qualified bidders would bid on jobs of this size.

3. *Haul.*—If contract haul were specified from center of cut or borrow to center of fill for every 1,000 feet and any additional distance were specified as station yard overhaul, for bidding purposes this would have a stabilizing influence.

4. *Compaction.*—Where compaction is required, by sheepfoot or rubber-tired rollers, or hand-tamping, if this were a specified-bidding item in all cases, we think this would have a stabilizing influence.

In closing, we wish to say that we have performed various work under the United States engineers in the St. Louis office and wish to say that we have received very courteous treatment and think that this office has been run very efficiently with every cooperation with the contractor in this area. This letter is not intended as criticism but as constructive comment to Mr. ———'s request for suggestions which we think might be helpful in procuring more bids and more reasonable prices from the contractor for this type of work.

Respectfully yours,

——— ———.

LETTER NO. 24

BOSTON, MASS., *November 6, 1951.*

DEAR SIR: This will confirm our advices to Mr. ——— of your staff with reference to bidding practices and policies for the military defense program.

It has been our experience that procedure has been satisfactory but we are of the opinion the following are undesirable practices:

(*a*) The issuing of a inordinate number of projects during the month of June at the end of the fiscal period.

(*b*) The method used by the Boston office of the Corps of Engineers in limiting to invitation only. This is entirely at variance with the procedure used in other areas, namely, regular advertisement and advance notice to potential bidders.

Very truly yours,

——— ———.

LETTER NO. 25

CHARLOTTE, N. C., *November 20, 1951.*

DEAR SIR: Pursuant to the recent visit of your Mr. ——— to this office, I should like to make certain observations concerning the handling of construction contracts by the various agencies of the Federal Government.

In general, the plans and specifications for Government construction projects appear to be adequate but in many cases, particularly where separate concerns or individuals prepare the general construction designs and details and the so-called mechanical installations of a building, a lack of coordination between the respective designers is soon discovered to have existed. This, of course, results in a multiplicity of change orders, work stoppages, etc., which are costly in both time and money.

If more thought and planning were given to the coordination of all the details before a project is advertised for bids, there is no doubt that lower bid prices and more expeditious construction would result.

A possibility for even more substantial savings is entirely within the control of the United States Department of Labor. In most cases, at least throughout the two Carolinas, it appears to be the policy of the Department of Labor to determine wage rates for a Government construction project at substantially higher levels than the rates actually prevailing in the locality involved. This practice not only vastly increases the cost to the Government of the particular project, but increases the cost of all construction within the area, as well as adds to the over-all inflationary pressure. In virtually all cases in the two Carolinas protests to the Labor Department concerning this practice have been met with stony indifference.

As the writer told Mr. ———, an over-all economy could perhaps be brought about, and certainly a stabilizing influence to the construction industry in general would result, if as many as possible of the larger construction projects could be broken into relatively smaller jobs in order to provide business for many small, or at least medium-sized, contractors who are unable to undertake multimillion-dollar contracts.

In the opinion of the writer, there is no justification for renegotiation on competitively bid, fixed-price contracts. Competition and taxes more than safeguard the Government from the possibility of any undue net profits being made.

Very truly yours,

——— ———.

LETTER NO. 26

MEMPHIS, TENN., *October 9, 1951.*

Ref: Permanent barracks, mess hall, and training building NATTC, Memphis, Tenn.

DEAR SIR: In accordance with our discussion and at your request, we are writing you this date setting forth several pertinent facts relative to our not submitting a bid on the above project.

Probably the prime factor in our not submitting a bid on this project, after taking out plans and examining this job in detail, was the exceedingly large liquidated damage clause and the short time of completion for this project under present-day conditions. We knew after examining the plans that we would not be able to finish this job in the time allotted and would have to include in our bid approximately 3 months' penalty, or approximately $90,000 to $100,000 to cover the liquidated damage. This being in addition to approximately 30 percent increase in labor costs to cover premium wages, which would have had to have been paid on this project, as we felt that the job would have to be prosecuted with overtime work to complete the job on time.

We are unable to understand why the Army and Navy persist in putting out these projects for bids with such short completion periods and high liquidated-damage clauses, as this practice is surely costing the Government 10 to 15 percent over what the same work would cost as compared to private work.

The writer also fails to understand why the contracts being let by the Government are either below $20 or $25,000 or else above $2 or $3 million. This practice has eliminated from the field of competition a greater portion of the contractors in business. For example, if the job, which is the subject of this letter, had been let in four parts, the writer is certain beyond a doubt that the Government would have had six or seven bidders on each of the individual projects mentioned above, but due to the magnitude of the job as a unit, those bidders in the $500,000 to $1,500,000 class were eliminated. In the city of Memphis there are only one or two contractors who can bid over $1½ to $2 million. The balance of the contractors in the city of Memphis can bid work from $1,000,000 down so that the contract at Millington being let in one job eliminated all of these potential bidders.

The writer believes without reservation that if the above-mentioned job had been let as four projects, that it would have saved the Government thousands of dollars. The only way the majority of contractors in Memphis can bid such projects is as coadventurers, and this should not be necessary.

The writer believes that if the Government would consider letting jobs with more thought given to the following prime factors, they would get their work done more economically, and just as satisfactorily:

(1) Reduce the size of the jobs so more contractors can bid on the work.

(2) Give a reasonable time for completion so as to eliminate having to figure premium wages.

BUREAU OF YARDS AND DOCKS, PUBL

APPROPRIATIONS , APPORTIONMENTS AN

APPROPRIATION FL 911/81st CONGRESS - SECOND SUPPLEM

ENACTED 6 JANUARY 1951

Release Number 1/	Location and Description	APPROPRIATION Appropriated by Congress	Administrative Transfers 2/	Appropriation After Transfer	Appt. Ref. 4/	APPORTIONMENT REQU Date	Amou
412	N.C. V. #35 Temporary emergency barracks for communication activities	441000	—	441000		12-15-50	22
					9	3-6-51	352
					36	6-1-51	44
					7	10-2-51	22
413	NCS, (Atlantic Area) H7/07 facility	400000	—	400000	1	12-15-50	200
					2	10-2-51	3800
	GRAND TOTALS	$303378000	-0-	$303378000			

FOOTNOTES:

1/ This release number is purely for administrative control by the Bureau of Yards and Docks and is otherwise

2/ Transfers within the Second Supplemental Appropriation Act, 1951, approved by the Secretaries of Navy and D

3/ Advance approval of apportionment on specific items obtained by telephone from the Bureau of the Budget.

4/ This is the serial number of the apportionment request from the Navy to the Bureau of the Budget.

5/ This transfer of $505,300 was from:

(a) Mayport, Florida - $143,300

(b) Fentress, Virginia - $362,000

and was approved by the Bureau of the Budget on 24 Oct 1951.

PUBLIC WORKS

TS AND OBLIGATIONS

PPLEMENTAL APPROPRIATION ACT 1951

1951

REQUESTED	APPORTIONMENT APPROVED		OBLIGATIONS		
Amount	Amount	Date	Cumulative to 1/31/52	Major Obligation Amount	Date
22050	22050	12-26-50			
352800	352800	4-27-51			
44100	44100	6-30-51		237000	June 1951
22050	22050	10-24-51			
	441000		237611		
20000	20000	12-26-50			
380000	380000	10-24-51		162000	June 1951
	400000		162000		
	$ 3931799.44		$ 2478306.50		

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BUREAU OF YARDS AND DOCKS, PUBLIC

APPROPRIATIONS , APPORTIONMENTS AND

APPROPRIATION PL 911/81st CONGRESS - SECOND SUPPLEMENT

ENACTED 6 JANUARY 1951

Release Number 1/	Location and Description	APPROPRIATION Appropriated by Congress	Administrative Transfers 2/	Appropriation After Transfer	Appt. Ref. 4/	APPORTIONMENT REQUES Date	Amount
395	Naval Supply Center, Pearl Harbor, T.H. Construct bulk aviation/jet fuel storage (100,000 bbl.) and 69,000 lineal ft pipelines	1950000	300000 3c	1650000	4	12-15-50	7800
						6-2-51	175000
						3-6-51	1 57750
						10-2-51	71750
						12-17-51	80000
396	NCS, Philippine Islands Rehabilitation of communication facilities	500000	—	500000		3-6-51	425000
						6-1-51	50000
						10-2-51	25000
401	NCS, Philippine Islands H7/D7 facility	400000	—	400000		12-15-50	80000
						3-6-51	320000
						6-1-51	40000
						10-2-51	40000
402	Location Classified (Overseas) Supplementary communication facilities	4417000	—	4417000	4	12-15-50	177000
						3-6-51	3577450
						10-2-51	662550
403	Location Classified (Overseas) Classified facilities	3200000	—	3200000		12-15-50	128000
						3-6-51	2549000
						6-1-51	320000
						10-2-51	160000
404	NCS (SR) Kwajalein, M.I. Radio Direction finder station	375000	—	375000		3-6-51	318750
						6-1-51	37500
						10-2-51	18750
405	NCS, Wahiawa, T.H. Temporary emergency barracks for communication activities	153500	49300	202800		12-15-50	7650
						3-6-51	129850
						6-1-51	62185
						10-2-51	10140
406	Location Classified Temporary emergency barracks for communication activities	240000	—	240000		12-15-50	12000
						3-6-51	192000
						6-1-51	24000
						10-2-51	12000
411	NCS San Juan, P.R. Temporary emergency barracks for communication activities	77000	77000 3c	—		Nothing	-

UBLIC WORKS

AND OBLIGATIONS

EMENTAL APPROPRIATION ACT 1951

951

EQUESTED Amount	APPORTIONMENT APPROVED Amount	Date	OBLIGATIONS Cumulative to 1/31/52	Major Obligation Amount	Date
78000	78000	12-26-50			
145000	145000	6-22-51			
1577500	1577500	4-27-51			
47500	47500	10-24-51		400000	Aug 1951
[illegible]	[illegible]	1-22-52		331850	Dec 1951
1650000			799745		
125000	125000	4-27-51			
50000	50000	6-20-51			
25000	25000	10-24-51			
500000			-0-	-0-	
20000	20000	12-26-50			
320000	320000	4-27-51			
40000	40000	6-20-51		256000	June 1951
40000	40000	10-24-51			
400000			256000		
197000	197000	12-26-50			
3577450	3577450	4-27-51			
668550	668550	10-24-51		2600000	Oct 1951
4443000			3833779		
109000	109000	12-26-50			
2592000	2592000	4-27-51			
320000	320000	6-20-51			
160000	160000	10-24-51		1698598	Oct 1951
3181000			2413694		
218750	218750	4-27-51			
37500	37500	6-20-51			
18750	18750	10-24-51		8505	Nov 1951
275000			8505		
7650	7650	12-26-50			
122425	122425	4-27-51			
62125	62125	6-15-51		55932	Oct 1951
10140	10140	10-24-51		72765	Nov 1951
202300			168252		
12000	12000	12-26-50			
142000	142000	4-27-51			
34000	34000	6-20-51			
12000	12000	10-24-51			
200000			200000	200000	Jan 1952

BUREAU OF YARDS AND DOCKS, PUBLIC

APPROPRIATIONS , APPORTIONMENTS AND

APPROPRIATION PL 911/81st CONGRESS - SECOND SUPPLEMENT

ENACTED 6 JANUARY 1951

Release Number 1/	Location and Description	APPROPRIATION Appropriated by Congress	Administrative Transfers 2/	Appropriation After Transfer	Appt. Ref. 4/	APPORTIONMENT REQUES Date	Amount
383	NAS, Langley Point, Va. Additional aviation facilities	2264000	100000 3/	2164000	1	12-15-50	90
					6	3-6-51	15704
					11	5-11-51	9108
					12	5-14-51	37877
					7	10-2-51	11320
					16	12-17-51	10000
384	NAS, Kodiak, Alaska Additional operational facilities	1525000	—	1525000	1	12-15-50	610
					4	3-6-51	123529
					10	6-1-51	152
					16	6-15-51	762
385	NAS, Barber's Point, T.H. Additional aviation and personnel facilities	227500	—	227500	9	3-6-51	19337
					10	6-1-51	2275
					13	7-17-51	131
					7	10-2-51	1003
386	NAS, Kaneohe, T.H. Extension and realignment of runways to support fleet aircraft	2000000	—	2000000	1	12-15-50	800
					5	1-10-51	800000
					9	3-6-51	800
391	NAS, Agana, Guam Additional aviation operational facilities to support MATS - fleet aircraft	2520000	—	2520000	7	10-2-51	2520
183	NAS/NOB, Kwajalein, M.I Permanent operational facilities in support of MATS	3000000	—	3000000	9	10-2-51	3000
392	NAS, Guantanamo Bay, Cuba Additional aviation facilities	4990000	—	4990000	1	12-15-50	2600
					9	3-6-51	39815
					12	5-31-51	6028
393	NAS, Kaneohe, T.H. Rehabilitation for camp for one RCT(reinforced)	1500000	—	1500000	1	12-15-50	600
					9	3-6-51	12150
					11	5-11-51	1500
					7	10-2-51	750
394	NAD, Lualualei, Oahu, T.H. Improve ammunition, overhaul, and production facilities	800000	70000	870000	9	3-6-51	2550
					10	6-1-51	300
					14	9-4-51	850

PUBLIC WORKS

S AND OBLIGATIONS

LEMENTAL APPROPRIATION ACT 1951

951

REQUESTED Amount	APPORTIONMENT APPROVED Amount	Date	OBLIGATIONS Cumulative to 1/31/52	Major Obligation Amount	Date
90500	90500	12-26-50			
1570444	1570444	4-27-51			
91086	91086	5-28-51		329746	Aby 1951
378770	378770	5-31-51			
113200	113200	10-24-51		383107	Sept 1951
100000 DS	100000 DS	1-09-52			
	2164000		1447923		
61000	61000	12-26-50			
1335250	1335250	4-27-51		414279	Sept 1951
152500	152500	6-20-51		385422	Nov 1951
76250	76250	6-27-51		284771	Dec 1951
	1626000		1415339		
193375	193375	4-27-51			
22750	22750	6-20-51			
1345	1345	8-2-51			
10030	10030	10-24-51		36445	Nov 1951
	227500		51346		
80000	80000	12-26-50			
2000000	2000000	1-25-51			
80000 DS	80000 DS	4-27-51		1536537	Nov 1951
	2080000		1832149		
520000	2590000	10-24-51		2223000	Oct. 1951
	4670000		2297944		
000000	3000000	10-24-51			
	3000000		303100	74038	Nov 1951
260000	260000	12-26-50			
981500	3981500	4-27-51			
608500	608500	6-15-51		2829792	June 1951
	4850000		2988959		
60000	60000	12-26-50			
215000	1215000	4-27-51			
150000	150000	5-28-51		460763	July 1951
75000	75000	10-24-51		304230	Sept 1951
	1500000		1155561		
255000	255000	4-27-51		73100	Aug 1951
30000	30000	6-20-51		247161	Sept 1951
85000	85000	9-18-51			
	370000		331631		

BUREAU OF YARDS AND DOCKS, PUBLIC

APPROPRIATIONS , APPORTIONMENTS AND

APPROPRIATION PL 911/81st CONGRESS - SECOND SUPPLEMENT

ENACTED 6 JANUARY 1951

Release Number 1/	Location and Description	APPROPRIATION Appropriated by Congress	Administrative Transfers 2/	Appropriation After Transfer	Appt. Ref. 4/	APPORTIONMENT REQUES Date	Amount
365	Fleet Activity, Yokosuka, Japan Expansion of electrical facilities for Ship Repair facility	307000	—	307000		8-6-51	26090
						6-15-51	3070
					7	10-2-51	153
366	Fleet Activity, Yokosuka, Japan Repair & modernization of drydock #6	500000	364961	864961		1-24-51	50000
						10-2-51	38496
						1-14-52	2000
371	Fleet Activity, Yokosuka, Japan Installation of blacksmith shop in bldg A-25 for Ship Repair facility	108000	33685	141685		3-6-51	9180
						7-9-51	4380
						10-2-51	708
372	Fleet Activity, Yokosuka, Japan Construction of galley, messhall, and barracks for 10 officers + 150 men on Azuma Island	95000	—	95000		3-6-51	8079
					7	10-2-51	1429
373	Naval Station, Subic Bay, P. I. Repairs to ammunition magazines, Grande Island	145000	—	145000		10-15-50	729
						3-6-51	11600
						5-28-51	1450
						10-2-51	729
374	NOB, Guam Barracks, messhall and galley	2840000	—	2840000		1-24-51	2840000
375	Naval Magazine, Guam, M. I. Completion of HE storage facilities and accessories	6000000	263456	5736544		3-6-51	5100000
						7-6-51	600000
						10-2-51	300000
376	Naval Shipyard, Pearl Harbor, T. H Emergency restoration of primary electrification distribution system	90000	—	90000		3-6-51	7650
						10-2-51	1350
381	Chanute Field, Illinois Extension of runways and rehabilitation of facilities	3309000	100000	3409000		3-6-51	28126
						5-11-51	33090
						11-2-51	16545
					10	12-17-51	10000
382	NAF, Yokosuka, Japan Additional aviation and personnel facilities	888000	—	888000		3-6-51	7548
						5-11-51	8880
						10-2-51	4440

PUBLIC WORKS

ES AND OBLIGATIONS

PLEMENTAL APPROPRIATION ACT 1951

951

REQUESTED	APPORTIONMENT APPROVED		OBLIGATIONS		
Amount	Amount	Date	Cumulative to 1/31/52	Major Obligation Amount	Date
260950	260950	4-27-51			
30700	30700	6-27-51		285800	June/1951
15350	15350	10-24-51			
	307000		289400		
500000	500000	2-13-51			
384861	384861	10-24-51		632560	Sept/1951
20000 Cr	20000 Cr	2-13-52			
	864861		686123		
91800	91800	4-27-51		102010	May/1951
43800	42800	7-18-51			
7085	7085	10-24-51			
	141685		133886		
80750	80750	4-27-51		74400	July/1951
14250	14250	10-24-51			
	95000		87400		
7250	7250	12-26-50			
116000	116000	4-27-51			
14500	14500	6-13-51			
7250	7250	10-24-51		46787	Nov/1951
	145000		111836		
2840000	2840000	2-13-51		2220040	May/1951
	2840000		2312443		
5100000	5100000	4-27-51			
336544	336544	4-27-51			
300000	300000	10-24-51		5149400	July/1951
	5736544		5198723		
76500	76500	4-27-51			
13500	13500	10-24-51		9396	Oct/1951
	90000		16516		
2812650	2812650	4-27-51		4124863	May/1951
330900	330900	5-28-51		485538	May/1951
165450	165450	10-24-51		901936	June/1951
100000	100000	1-29-52		437174	Sept/1951
	3409000		3013231		
754800	754800	4-27-51			
88800	88800	5-28-51		199020	Aug/1951
44400	44400	10-24-51		109508	Oct/1951
	888000		378473		

BUREAU OF YARDS AND DOCKS, PUBLIC

APPROPRIATIONS , APPORTIONMENTS AND

APPROPRIATION PL 911/81st CONGRESS - SECOND SUPPLEMENT

ENACTED 6 JANUARY 1951

Release Number 1/	Location and Description	APPROPRIATION Appropriated by Congress	Administrative Transfers 2/	Appropriation After Transfer	Appt. Ref. 4/	APPORTIONMENT REQUES Date	Amount
351	Dupont, S.C. Temporary emergency barracks for communications activities	151585	10992	162577	4	12-15-50	760
					9	3-6-51	12124
					30	6-1-51	1519
					1	7-17-51	1044
					7	10-2-51	812
352	Imperial Beach, Calif Temporary emergency barracks for communications activities	159415	99339 Sc	60076	4	12-15-50	797
					9	3-6-51	12753
					25	5-28-51	13554
353	Skaggs Island, Calif. Temporary emergency barracks for communications activities	172965	10000	182965	4	12-15-50	865
					9	3-6-51	13837
					30	6-1-51	1729
					7	10-2-51	864
					10	12-17-51	1000
354	NCS, Winter Harbor, Me. Addition to radio operating building	110000	—	110000	4	12-15-50	550
					9	3-6-51	8800
					30	6-1-51	1100
					7	10-2-51	550
355	NCS, Amagansett, L.I. Rehabilitation and activation of H/F/DF facility	100000	—	100000	4	12-15-50	500
						3-6-51	8000
						6-1-51	1000
						10-2-51	600
356 thru 380	Emergency Construction (Classified)	5000000	—	5000000	9	1-24-51	5000000
381	Research Planning Funds for research planning for PW Projects in Alaska (Non-Arctic) and Continental	3685000	950000	2735000	5	1-10-51	2425000
					1	7-17-51	95000
382	Alaska Area Funds for completion plans for Alaskan bases (Initial increment)	660000	950000 Sc	410000	1	9-21-50	66000
						7-17-51	95000
383	Naval Activity, Yokosuka, Japan Alterations to electric ship utilities, steam, air, steam, water - Naval Base	1115700	364861 Sc	750839	7	3-6-51	94834
					7	10-2-51	217500
					11	1-14-52	20000
384	Naval Activity, Yokosuka, Japan Construct ammunition storage	2465000	543685 Sc	1921315	4	12-15-50	98600
						3-6-51	1996650
					6	9-4-51	173365
					6	12-17-51	100000

PUBLIC WORKS

S AND OBLIGATIONS

LEMENTAL APPROPRIATION ACT 1951

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REQUESTED Amount	APPORTIONMENT APPROVED Amount	Date	OBLIGATIONS Cumulative to 1/31/52	Major Obligation Amount	Date
7600	7600	12-26-50			
121248	121248	4-27-51			
15158	15158	6-20-51			
10442	10442	8-2-51		101482	July 1951
8139	8139	10-24-51			
	162577		148481		
7970	7970	12-26-50			
127533	127533	4-27-51			
135503 ES	135503 ES	6-13-51			
	-0-		-0-	-0-	
8650	8650	12-26-50			
138371	138371	4-27-51			
17296	17296	6-20-51			
8648	8648	10-24-51		151419	Sept 1951
10000	10000	1-29-52			
	183965		157771		
5500	5500	12-26-50			
88000	88000	4-27-51			
11000	11000	6-20-51			
5500	5500	10-24-51		102797	Sept 1951
	110000		108249		
5000	5000	12-26-50			
80000	80000	4-27-51			
10000	10000	6-20-51		73013	June 1951
5000	5000	10-24-51			
	100000		79713		
5000000	5000000	2-13-51		5000000	July 1951
	5000000		5000000		
2625000	2625000	1-25-51			
250000	250000	8-2-51			Various Dates
	2875000		2042883		
460000	460000	10-9-50			
250000 ES	250000 ES	8-2-51			Various Dates
	410000		376709		
948345	948345	4-27-51			
217506 ES	217506 ES	10-24-51		454019	June 1951
20000	20000				
	750839		644886		
98600	98600	12-26-50			
1796650	1796650	4-27-51		267763	Oct 1951
73935 ES	73935 ES	9-18-51		287450	Nov 1951
100000 ES	100000 ES	1-29-52			
	1921315		992742		

BUREAU OF YARDS AND DOCKS, PUBLIC

APPROPRIATIONS, APPORTIONMENTS AND O

APPROPRIATION PL 911/81st CONGRESS - SECOND SUPPLEMENTA

ENACTED 6 JANUARY 1951

Release Number 1/	Location and Description	APPROPRIATION Appropriated by Congress	Administrative Transfers 2/	Appropriation After Transfer	Appt. Ref. 4/	APPORTIONMENT REQUEST Date	Amount
335	NSD, Seattle, Wash. (Manchester fuel facility) Construction of aviation gasoline & jet fuel bulk storage, 100,000 bbls.	1340000	200000 Cr	1140000		12-15-50	53400
						3-6-51	1085400
						6-8-51	134000
						10-2-51	67000
					16	12-17-51	200000
336	NSD, Long Beach, Calif. (San Pedro fuel facility) Construction of aviation gasoline & jet fuel bulk storage, 250,000 bbls.	2600000	—	2600000	4	12-15-50	104000
					9	3-6-51	2206000
					34	6-8-51	160000
					7	10-2-51	130000
341	Naval fuel Storage facility, fuel Terminal Jacksonville, Fla. Acquisition & expansion of residual gasoline & jet fuel bulk storage (550,000 bbls)	3175000	—	3175000	4	12-15-50	127000
					9	3-6-51	2571750
					34	6-8-51	317500
					7	10-2-51	158750
342	NSC, Norfolk, Va. (Craney Isl. fuel facility) Construction of aviation gasoline & jet fuel bulk storage (300,000 bbls.)	1550000	500000	2050000	4	12-15-50	62000
					9	3-6-51	1255500
					34	6-8-51	155500
					7	10-2-51	77000
					16	12-17-51	500000
343	Naval Supply Depot, Davisville, R.I. Erect one Heating crane	75000	—	75000	9	3-6-51	63750
					1	5-11-51	7500
					7	10-2-51	3750
37	NCS, Snohomish Co., Washington Super high power VLF facilities collateral equipment & accessory construction	2000000	78000 Cr	1922000	37	5-31-51	1476650
					4	7-25-51	78000
					7	10-2-51	523350
344	NCS, Location Classified (Continental) Establish communication facilities for classified headquarters	2000000	—	2000000	4	12-15-50	80000
					9	3-6-51	1720000
					7	10-2-51	200000
345	Cheltenham, Md. Temporary emergency barracks for communications activities	70525	8847	79372	4	12-15-50	3640
					9	3-6-51	56406
					27	6-1-51	11304
					1	7-17-51	4153
					7	10-2-51	3969
346	Winter Harbor, Me. Temporary emergency barracks for communications activities	108260	97200	205460	4	12-15-50	5400
					9	3-6-51	86621
					25	5-28-51	103166
					7	10-2-51	10273

UBLIC WORKS

AND OBLIGATIONS

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EQUESTED Amount	APPORTIONMENT APPROVED Amount	Date	OBLIGATIONS Cumulative to 1/31/52	Major Obligation Amount	Date
53400	53600	12-26-50			
1085400	1085400	4-27-51			
134000	134000	6-27-51			
67000	67000	10-24-51		676330	Aug 1951
200000 Ex	200000 Ex	1-29-52			
	1140000		921168		
104000	104000	12-26-50			
2206000	2206000	4-27-51			
160000	160000	6-27-51		462500	May 1951
130000	130000	10-24-51		1616210	Oct. 1951
	2600000		2208210		
127000	127000	12-26-50			
2571750	2571750	4-27-51			
317500	317500	6-27-51		1333939	June 1951
158750	158750	10-24-51		856420	Oct 1951
	3175000		2529369		
62000	62000	12-26-50			
1255500	1255500	4-27-51			
155500	155500	6-27-51			
77000	77000	10-24-51		1309140	Dec 1951
500000	500000	1-29-52			
	2050000		1679900		
63750	63750	4-27-51			
7500	7500	5-28-51			
3750	3750	10-24-51		50467	Aug 1951
	75000		68244		
1476650	1476650	6-15-51			
78000 Ex	78000 Ex	8-15-51			
523350	523350	10-24-51		1242750	Nov 1951
	1922000		1863692	586730	Jan 1952
80000	80000	10-26-50			
1720000	1720000	4-27-51			
200000	200000	10-24-51		954000	June 1951
	2000000		954000		
3640	3640	12-26-50			
56406	56406	4-27-51			
11304	11304	6-15-51		62447	July 1951
4153	4153	8-8-51			
3969	3969	10-24-51			
	79371		71093		
5400	5400	12-26-50			
86621	86621	4-27-51			
103166	103166	6-13-51			
10273	10273	10-24-51		116297	Oct 1951
	205460		142144		

BUREAU OF YARDS AND DOCKS, PUBLIC

APPROPRIATIONS , APPORTIONMENTS AND

APPROPRIATION PL 911/81st CONGRESS - SECOND SUPPLEMENT

ENACTED 6 JANUARY 1951

Release Number 1/	Location and Description	APPROPRIATION Appropriated by Congress	Administrative Transfers 2/	Appropriation After Transfer	Appn. Ref. 4/	APPORTIONMENT REQUES Date	Amount
322	NAD, Crane, Indiana Convert TNT Loading Line to Aluminized Loading	566000	162000	728000	4	12-15-50	2830
					9	3-6-51	45200
					1	7-17-51	6746
					6	9-4-51	16830
					10	12-17-51	2200
323	NMD, Yorktown, Va. Convert TNT Loading Line to Aluminized Explosive Loading	1025000	—	1025000	4	12-15-50	5000
					9	3-6-51	82125
					22	6-1-51	10250
					7	10-2-51	5125
324	NAD, Earle, N. J. Overhaul Building Conversion	55000	125500	180500	4	12-15-50	275
					9	3-6-51	9400
					23	5-24-51	12472
					7	10-2-51	903
325	NMD, Yorktown, Va. Mine Assembly and Explosive Loading Facilities	384000	—	384000	6	12-15-50	1920
					9	3-6-51	30720
					30	6-1-51	3840
					7	10-2-51	1920
326	NPF, Indian Head, Md. Nobern Propellant Production facilities	1800000	—	1800000	4	12-15-50	10000
					9	3-6-51	143000
					17	5-11-51	18000
					7	10-2-51	9000
331	Naval Hospital, Memphis, Tenn. Installation of Fire Alarm System	70000	—	70000	4	12-15-50	356
					9	3-6-51	5600
					30	6-1-51	700
					7	10-2-51	350
332	Naval Hospital, Memphis, Tenn. Construction of Auxiliary Loop Water Main	65000	15750 CR	49250	4	12-15-50	325
					9	3-6-51	5200
					3	8-1-51	600
333	Naval Hospital, Portsmouth, Va. Fire Alarm System	93000	—	93000	4	12-15-50	465
					9	3-6-51	7440
					30	6-1-51	930
					7	10-2-51	465
334	Naval Hospital, Phil., Pa. Alterations & Improvements to messhall and galley	250000	15750	265750	4	12-15-50	1250
					9	3-6-51	20000
					30	6-1-51	2500
					3	8-1-51	1570
					7	10-2-51	1250

PUBLIC WORKS

S AND OBLIGATIONS

LEMENTAL APPROPRIATION ACT 1951

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REQUESTED	APPORTIONMENT APPROVED		OBLIGATIONS		
Amount	Amount	Date	Cumulative to 1/31/52	Major Obligation Amount	Date
28300	28300	12-26-50			
452000	452000	4-27-51			
67400	57400	8-2-51			
168300	168300	9-18-51			
22000	22000	1-29-52		654815	Sept 1951
	728000		688715		
50000	50000	12-26-50		50000	Jan 1951
821250	821250	4-27-51			
100500	100500	6-20-51			
51250	51250	10-24-51			
	1025000		53224		
2750	2750	12-26-50			
44000	44000	4-27-51			
124725	124725	6-13-51		171460	June 1951
9025	9025	10-24-51			
	180500		171460		
19200	19200	12-26-50			
307200	307200	4-27-51		8500	Jan 1951
38400	38400	6-20-51			
19200	19200	10-24-51			
	384000		8500		
100000	100000	12-26-50			
1430000	1430000	4-27-51			
180000	180000	5-28-51			
90000	90000	10-24-51		1250199	Sept 1951
	1800000		1689370		
3500	3500	12-26-50			
56000	56000	4-27-51			
7000	7000	6-20-51		60000	June 1951
3500	3500	10-24-51			
	70000		60000		
3250	3250	12-26-50			
52000	52000	4-27-51			
6000 SS	6000 SS	8-15-51		40000	June 1951
	49250		44000		
4650	4650	12-26-50			
74400	74400	4-27-51		4300	Feb 1951
9300	9300	6-20-51			
4650	4650	10-24-51			
	93000		4300		
12500	12500	12-26-50			
200000	200000	4-27-51			
25000	25000	6-20-51			
15750	15750	8-15-51			
12500	12500	10-24-51		224768	Aug 1951
	265750		237268		

BUREAU OF YARDS AND DOCKS, PUBLIC

APPROPRIATIONS, APPORTIONMENTS AND OB

APPROPRIATION PL 911/81st CONGRESS - SECOND SUPPLEMENTAL

ENACTED 6 JANUARY 1951

Release Number 1/	Location and Description	APPROPRIATION Appropriated by Congress	Administative Transfers 2/	Appropriation After Transfer	Appt. Ref. 4/	APPORTIONMENT REQUEST Date	Amount
311	NB, Camp Lejeune, N.C. Expand primary sewage treatment facilities	275000	44200	319200		12-15-50	13750
						3-6-51	220000
						5-18-51	27500
						7-9-51	29000
						10-2-51	28950
312	MB, Camp Pendleton, Oceanside, Calif. Barracks and messing facilities, Chappo Flats	4000000	123850 Cr	3876150		12-15-50	145000
						3-6-51	3255000
						5-11-51	200000
						5-18-51	200000
						10-2-51	119000
						12-17-51	42850
18	NOTS, Inyokern, Calif Housing, 88 Family Units	692500	—	692500		12-15-50	10000
						1-10-51	682500
313	NOTS, Inyokern, Calif Family Housing, 122 Units	2017880	—	2017880		12-15-50	30000
						1-10-51	1987880
225	NAD, Shumaker, Arkansas Completion of Rocket Production facilities	35000000	2022000 Cr	32978000		7-21-50	10000000
						1-24-51	21000000
						6-15-51	300000
						12-17-51	2678000
315	NAD, Earle, N.J. Extension and Repairs to Railroad System	2705000	105500 Cr	2599500		12-15-50	100000
						3-6-51	2216250
						5-24-51	153375
						10-2-51	129975
316	NAD, Hawthorne, Nev. Nine Assembly & Explosive Loading facilities	425000	75000	500000		12-15-50	21250
						3-6-51	340000
						6-1-51	49500
						9-4-51	96250
321	NAD, Hawthorne, Nev. Convert TNT Loading Line to Aluminized Explosive Loading	1240000	225000	1465000		12-15-50	60000
						3-6-51	994000
						6-1-51	124000
						9-4-51	287000

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MENTAL APPROPRIATION ACT 1951

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QUESTED ount	APPORTIONMENT APPROVED Amount	Date	OBLIGATIONS Cumulative to 1/31/52	Major Obligation Amount	Date
3750	13750	12-26-50			
0000	220000	4-27-51			
7500	27500	5-31-51			
9000	29000	7-18-51		289440	July 1951
8950	28950	10-24-51			
	319700		289440		
5000	145000	12-26-50			
5000	3255000	4-27-51			
0000	200000	5-28-51			
0000	200000	5-31-51		3438124	Aug 1951
9000	119000	10-2-51			
2850 Cx	42850 Cx	1-29-52			
	3876150		3570274		
0000	10000	12-26-50			
2500	692500	1-25-51		657875	June 1951
	697500		657875		
0000	30000	12-26-50			
7880	1987880	1-25-51		1869475	Jun 1951
	2017880		1597475		
0000	12000000	10-9-50		4285493	Jan 1951
0000	21000000	2-13-51		3484339	Apr 1951
0000	3000000	6-27-51		3335210	May 1951
2000 Sx	3033810 Sx	1-29-52		4838409	June 1951
	32978000		31031691	3672635	Aug 1951
0000	100000	12-26-50			
6250	2216250	4-27-51			
3275	153275	6-19-51			
9975	129975	10-24-51		1619352	Dec 1951
	2599500		1542545		
1250	21250	12-26-50			
0000	340000	4-27-51			
2500	42500	6-20-51			
6250	96250	9-18-51		457500	Sept 1951
	500000		465150		
0000	60000	12-26-50			
4000	994000	4-27-51		1312696	Oct 1951
4000	124000	6-20-51			
7000	287000	9-18-51			
	1465000		1355696		

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APPROPRIATIONS , APPORTIONMENTS AND O

APPROPRIATION PL 911/81st CONGRESS - SECOND SUPPLEMENTA

ENACTED 6 JANUARY 1951

Release Number 1/	Location and Description	APPROPRIATION Appropriated by Congress	Administrative Transfers 2/	Appropriation After Transfer	Appt. Ref. 4/	APPORTIONMENT REQUEST Date	Amount
296	NCRD, Parris Island, S.C. Temporary Emergency Barracks	807000	292885 Cr	514115	4	12-15-50	40350
					9	3-6-51	645600
					21	5-18-51	120600
					7	10-2-51	34320
					10	12-17-51	16915
301	MB, Camp Lejeune, N.C. Temporary Emergency Barracks	1219000	30340 Cr	1188660	4	12-15-50	48700
					9	3-6-51	1072450
					21	5-18-51	36980
					7	10-2-51	46950
					10	12-17-51	16340
302	MCDS, Eastern U.S. Depot Facilities	1500000	—	1500000	5	1-10-51	1000000
					9	3-6-51	375000
					21	5-18-51	185450
					21	5-25-51	3400000
					7	10-2-51	39550
					10	12-17-51	3400000
303	MB, Camp Pendleton, Oceanside, Calif Sewage Effluent Return	286000	330000 Cr	243000	4	12-15-50	14300
					9	3-6-51	228800
					21	5-18-51	28600
					7	10-2-51	8700
304	MB, Camp Lejeune, N.C. Correct Deficiencies In Raw Water Supply	390000	185450	575450	4	12-15-50	19500
					7	3-6-51	312000
					21	5-18-51	300150
					21	7-9-51	44200
					7	10-2-51	12000
305	MB, Camp Pendleton, Oceanside, Calif. Correction of Deficiencies in Raw Water Supply	1011000	—	1011000	5	1-10-51	500000
					9	3-6-51	359350
					21	5-18-51	101100
					7	10-2-51	50550
306	NCRD, Norfolk, Va. Increase Storage, 450,000 sq. ft.	3150000	115565 Cr	3034435	4	12-15-50	126000
					9	3-6-51	2551500
					11	5-11-51	157500
					21	5-18-51	158840
					7	10-2-51	56160
					10	12-17-51	15565

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951

REQUESTED Amount	APPORTIONMENT APPROVED Amount	Date	OBLIGATIONS Cumulative to 1/31/52	Major Obligation Amount	Date
40350	40350	12-26-50			
45600	645600	4-27-51			
20600 cr	120600 cr	5-31-51		489000	May 1951
34320 cr	34320 cr	10-24-51			
16915 cr	16915 cr	1-29-52			
	514115		495810		
48700	48700	12-26-50			
72450	1072450	4-27-51			
36900	36900	5-31-51			
46950	46950	10-24-51		1126508	Sept 1951
16340 cr	16340 cr	1-29-52			
	1188660		1126508		
00 000	1000000	1-25-51		610000	Jan 1951
75000	275000	4-27-51			
85450	185450	5-31-51		435759	May 1951
00000	3400000	6-13-51			
39550	39550	10-24-51			
00000 cr	3400000 cr	1-29-52			
	1500000		1355930		
14300	14300	12-26-50			
28800	228800	4-27-51			
28600	28600	5-31-51			
8700 cr	8700 cr	10-24-51		215200	Aug 1951
	263000		240885		
19500	19500	12-26-50			
12000	312000	4-27-51			
00150	300150	5-31-51			
44200 cr	44200 cr	7-18-51		523788	June 1951
12000 cr	12000 cr	10-24-51			
	575450		523788		
00000	500000	1-25-51		150000	Feb 1951
59350	359350	4-27-51			
1100	101100	5-31-51		125000	June 1951
0550	50550	10-24-51			
	1011000		282500		
4000	124000	12-26-50			
1500	2551500	4-27-51			
7500	157500	5-28-51			
8840	158840	5-31-51			
6160	56160	10-24-51		2450400	Dec. 1951
5565 cr	15565 cr	1-29-52			
	3034435		1526197		

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APPROPRIATIONS , APPORTIONMENTS AND OBL

APPROPRIATION PL 911/81st CONGRESS - SECOND SUPPLEMENTAL

ENACTED 6 JANUARY 1951

Release Number 1/	Location and Description	APPROPRIATION Appropriated by Congress	Administrative Transfers	Appropriation After Transfer	Appt. Ref.	APPORTIONMENT REQUESTED Date	Amount
			2/		4/		
284	NATTC, Memphis, Tenn. Additional aviation operational, training and personnel facilities.	6020000	—	6020000	4	12-15-50	345000
					9	3-6-51	4772000
					30	6-1-51	602000
					4	7-25-51	2163763
					7	10-2-51	1862763 C
285	NAF, Mayport, Fla. Additional aviation facilities	3035000	143300 Cr	2891700	4	12-15-50	145000
					9	3-6-51	2434750
					7	10-2-51	143300 C
					10	12-17-51	455250
286	NAF, Litchfield Park, Ariz. Additional aviation facilities	3046000	757653 Cr	2288347	4	12-15-50	200000
					9	3-6-51	2389100
					6	9-4-51	100753 C
					7	10-2-51	200000 C
291	NAS, Key West, Fla. Additional aviation facilities	990000	—	990000	4	12-15-50	150000
					9	3-6-51	691500
					21	5-18-51	99342
					34	6-15-51	31000
					7	10-2-51	18158
292	NAS, Dallas, Texas Additional aviation facilities	600000	175000	775000	4	12-15-50	24000
					9	3-6-51	486000
					30	6-1-51	60000
					6	9-4-51	205000
293	NAS, Denver, Colo. Additional aviation facilities	2812000	400000	3212000	4	12-15-50	145000
					9	3-6-51	2245800
					30	6-1-51	281200
					4	7-25-51	1400000 C
					6	9-4-51	540600
					7	10-2-51	1400000
294	NAS, Glenview, Ill. Additional aviation facilities	2696670	168421	2865091	4	12-15-50	160000
					9	3-6-51	2132157
					30	6-1-51	269079
					7	10-2-51	134834
					10	12-17-51	168421
295	MCRD, San Diego, Calif. Temporary emergency barracks	2548000	355990	2903990	4	12-15-50	100000
					9	3-6-51	2065800
					17	5-11-51	254800
					7	10-2-51	391700
					10	12-17-51	91690

LIC WORKS

ND OBLIGATIONS

ENTAL APPROPRIATION ACT 1951

URSTED unt	APPORTIONMENT APPROVED Amount	Date	OBLIGATIONS Cumulative to 1/31/52	Major Obligation Amount	Date
000	345000	12-26-50			
000	4772000	4-27-51			
000	602000	6-20-51		2008821	July 1951
763	2163763	8-15-51		2772061	Aug 1951
763 Cr	1862763 Cr	10-24-51			
	6020000		5719000		
000	145000	12-26-50			
750	2434750	4-27-51		2000000	Apr. 1951
300 Cr	143300 Cr	10-24-51			
250	455250	1-29-52			
	2891700		2213315		
000	200000	12-26-50			
100	2389100	4-27-51			
753 Cr	100753 Cr	9-18-51		491000	Sept 1951
000 Cr	206000 Cr	10-24-51			
	2288347		689477		
000	150000	12-26-50			
500	691500	4-27-51			
342	99342	5-31-51			
000	31000	6-27-51		855000	June 1951
158	18158	10-24-51			
	990000		971651		
000	24000	12-26-50			
000	486000	4-27-51			
000	60000	6-20-51		389015	July 1951
000	205000	9-18-51			
	775000		629828		
000	145000	12-26-50			
200	2245200	4-27-51			
200	281200	6-20-51			
000 Cr	1400000 Cr	8-15-51			
600	540600	9-18-51		374500	Aug 1951
000	1400000	10-24-51		385677	Oct 1951
	3212000		2947184	1137 000	Nov 1951
000	160000	12-26-50			
157	2132157	4-27-51			
679	269679	6-20-51		707042	Sept 1951
834	134834	10-24-51		1513046	Oct 1951
421	168421	1-29-52			
	2865091		2761092		
000	100000	12-26-50			
800	2065800	4-27-51		2359489 31	Mar 1951
800	254800	5-28-51			
700	391700	10-24-51			
690	91690	1-29-52			
	2903990		2776590		

BUREAU OF YARDS AND DOCKS, PUBLIC WO

APPROPRIATIONS , APPORTIONMENTS AND OBL

APPROPRIATION PL 911/81st CONGRESS - SECOND SUPPLEMENTAL

ENACTED 6 JANUARY 1951

Release Number 1/	Location and Description	APPROPRIATION Appropriated by Congress	Administrative Transfers	Appropriation After Transfer	Appt. Ref.	APPORTIONMENT REQUESTED Date	Amount
			2/		4/		
212	NAS, Olathe, Kansas Additional Aviation Facilities	4045000	—	4045000	4	12-15-50	200000
					9	3-6-51	3238250
					30	6-1-51	404500
					7	10-2-51	202250
213	NAS, Alameda, Calif. Additional Aviation Facilities	5000000	—	5000000	4	12-15-50	150000
					9	3-6-51	4100000
					30	6-1-51	500000
					7	10-2-51	250000
214	NAS, Quonset Pt., R. I. Additional Aviation Facilities	3130000	—	3130000	4	12-15-50	125000
					9	3-6-51	2535500
					30	6-1-51	313000
					7	10-2-51	156500
215	NAS, San Diego, Calif. Additional Aviation Facilities	2360000	—	2360000	4	12-15-50	115000
					9	3-6-51	1891000
					7	10-2-51	354000
216	NAS, Jacksonville, Fla. Additional Aviation Facilities	3758000	—	3758000	4	12-15-50	168000
					9	3-6-51	3026300
					131	7-9-51	375800
					7	10-2-51	187900
217	NAS, Pensacola, Fla. Additional Aviation Facilities	5000000	503300 5/	5503300	4	12-15-50	150000
					9	3-6-51	4100000
					22	5-16-51	515000
					31	6-15-51	109000
					7	10-2-51	631300
218	NAS, Corpus Christi, Texas Additional Aviation Facilities	5206000	—	5206000	4	12-15-50	225000
					9	3-6-51	4200100
					15	5-4-51	4100000
					30	6-1-51	725600
					7	10-2-51	55300
					10	12-17-51	4100000
219	NAS, Corpus Christi, Texas Additional Aviation Facilities	1100000	—	1100000	4	12-15-50	150000
					9	3-6-51	785000
					15	5-4-51	4100000
					131	7-9-51	902500
					7	10-2-51	312500
					10	12-17-51	5150000

LIC WORKS

ND OBLIGATIONS

ENTAL APPROPRIATION ACT 1951

UESTED unt	APPORTIONMENT APPROVED Amount	Date	OBLIGATIONS Cumulative to 1/31/52	Major Obligation Amount	Date
0000	200000	12-26-50			
3250	3238250	4-27-51			
4500	404500	6-20-51		2959000	June 1951
2250	202250	10-24-51			
	4045000		3670676		
0000	150000	12-26-50			
0000	4100000	4-27-51		1007500	Apr 1951
0000	500000	6-20-51		1973012	July 1951
0000	250000	10-24-51			
	5000000		4052807		
5000	125000	12-26-50			
5500	2535500	4-27-51			
3000	313000	6-20-51		414072	Aug 1951
6500	156500	10-24-51		715909	Oct 1951
	3130000		2140868		
5000	115000	12-26-50			
1000	1891000	4-27-51		1250200	July 1951
4000	354000	10-24-51			
	2360000		1711069		
9000	168000	12-26-50			
6300	3026300	4-27-51			
5800	375800	7-18-51		2510703	July 1951
7900	187900	10-24-51			
	3758000		3740107		
0000	150000	12-26-50			
0000	4100000	4-27-51			
5000	515000	5-31-51			
9000	109000	6-27-51		4568817	June 1951
1300	631300	10-24-51			
	5505300		5367851		
5000	225000	12-26-50			
0100	4200100	4-27-51			
0000 CR	4100000 CR	5-23-51		211989	June 1951
5600	725600	6-20-51		712051	July 1951
5300	55300	10-24-51			
0000	4100000	1-29-52			
	5206000		1005399		
0000	150000	12-26-50			
5000	785000	4-27-51			
0000	4100000	5-23-51			
2500	902500	7-18-51			
1500	312500	10-24-51		380068	Aug 1951
0000 CR	5150000 CR	1-29-52			
	1100000		794205		

BUREAU OF YARDS AND DOCKS, PUBLIC WO

APPROPRIATIONS , APPORTIONMENTS AND OBL

APPROPRIATION PL 911/81st CONGRESS - SECOND SUPPLEMENTAL

ENACTED 6 JANUARY 1951

Release Number 1/	Location and Description	APPROPRIATION Appropriated by Congress	Administrative Transfers 2/	Appropriation After Transfer	Appt. Ref. 4/	APPORTIONMENT REQUESTED Date	Amount
255	Naval Air Station (Lakehurst) [illegible] Additional Aviation Facilities	695000	2050000 Cr	2745000		12-15-50	1050000
					4	3-6-51	1295750
					7	10-2-51	399250
256	NAS Cherry Point N.C. Development to support jet operations	7194000	2146000 Cr	10240000	4	12-15-50	320000
					9	3-6-51	8646400
					7	10-2-51	1102600
261	NAS Brunswick, Me Development of Helicopter Field	5500000	—	5500000	4	12-15-50	162500
					9	3-6-51	4310000
					30	6-1-51	550000
					7	10-2-51	477500
262	NAS Chincoteague, Va. Development of Jet Runway	5000000	—	5000000	4	12-15-50	150000
					9	3-6-51	4100000
					30	6-1-51	500000
					7	10-2-51	250000
263	NAS Pensacola (Fort Barrancas) Fla Development of Jet Training Field	7950000	800000	8750000	4	12-15-50	450000
					9	3-6-51	6307500
					18	5-14-51	6307500
					38	6-19-51	6307500
					7	10-2-51	1992500
264	NAS Whidbey Island, Wash Additional Aviation Facilities	4482500	—	4432500	4	12-15-50	175000
					9	3-6-51	3592025
					30	6-1-51	443250
					4	7-25-51	621625
					10	12-17-51	400000
265	NAS Quonset Point, R.I. Additional Aviation Facilities	5124000	168421 Cr	3555579	4	12-15-50	175000
					9	3-6-51	4690400
					7	10-2-51	858600
					10	12-17-51	168421
266	NAS [illegible] Additional Aviation Facilities	2250000	—	2250000	4	12-15-50	90000
					9	3-6-51	1822500
					7	10-2-51	337500
270	NAS New York, N.Y. Additional Aviation Facilities	4100000	—	4100000	4	12-15-50	200000
					9	3-6-51	3285000
					30	6-1-51	410000
					7	10-2-51	205000

LIC WORKS

ND OBLIGATIONS

ENTAL APPROPRIATION ACT 1951

URSTED unt	APPORTIONMENT APPROVED Amount	Date	OBLIGATIONS Cumulative to 1/31/52	Major Obligation Amount	Date
	165000	12-26-50			
751	2185750	4-27-51			
250	204250	10-24-51		1307450	Aug 1951
	2495000		1437464		
000	320000	12-26-50		2769311	June 1951
400	8846400	4-27-51		1411071	July 1951
600	1122600	10-24-51		1876000	Dec 1951
	10269000		6257773		
000	165000	12-26-50			
000	4510000	4-27-51			
000	470000	6-20-51		697862	June 1951
000	355000	10-24-51		3433000	July 1951
	5500000		4653206		
000	150000	12-26-50			
000	4100000	4-27-51			
000	600000	6-20-51		3256257	Aug 1951
000	250000	10-24-51			
	5000000		4097068		
000	450000	12-26-50			
500	—	Not Approved			
500	—	Not Approved			
500	6307500	6-27-51		6310308	Sept 1951
500	1992500	10-24-51		1037174	Nov 1951
	8750000		8303923	529777	Dec 1951
000	175000	12-26-50			
625	2592625	4-27-51			
250	443250	6-20-51		4026372	June 1951
625	621625	8-15-51			
000 CR	400000 CR	1-29-52			
	4432500		4373154		
000	175000	12-26-50			
400	469400	4-27-51			
600	858600	10-24-51		2455009	Sept 1951
431 CR	168421 CR	1-29-52			
	5555579		3096360		
000	90000	12-26-50			
500	1822500	4-27-51			
500	337500	10-24-51		1310750	Oct 1951
	2250000		1598406		
000	200000	12-26-50			
000	3285000	4-27-51			
000	410000	6-20-51			
000	205000	10-24-51		3494664	Oct 1951
	4100000		3885494		

BUREAU OF YARDS AND DOCKS, PUBLIC

APPROPRIATIONS, APPORTIONMENTS AND

APPROPRIATION PL 911/81st CONGRESS - SECOND SUPPLEMENTA

ENACTED 6 JANUARY 1951

Release Number 1/	Location and Description	APPROPRIATION Appropriated by Congress	Administrative Transfers 2/	Appropriation After Transfer	Appt. Ref. 4/	APPORTIONMENT REQUEST Date	Amount
243	EDENTON, N.C. (SATELLITE #2 FOR NAAS, OCEANA) ADDITIONAL AVIATION FACILITIES	$ 2675000	$ 701115	$ 3376115	4	12-15-50	150 00
					9	3-6-51	2140 75
					30	6-1-51	269 50
					4	7-25-51	375 96
					7	10-2-51	460 00
244	NAAS, MIRAMAR, CALIFORNIA DEVELOPMENT OF MASTER JET FIELD	13485000	300000 3/	13185000	4	12-15-50	650 00
					9	3-6-51	10514 80
					30	6-1-51	1345 00
					4	7-25-51	400 00
					7	10-2-51	674 40
					10	12-17-51	100 00
245	BROWN FIELD, CALIF. (SATELLITE #1 FOR MIRAMAR) ADDITIONAL AVIATION FACILITIES	4077000	775000 3/	3249000	4	12-15-50	160 00
					9	3-6-51	2258 70
					6	8-23-51	28 30
					7	10-2-51	200 00
246	NAAS, EL CENTRO, CALIF. (SATELLITE #2 FOR MIRAMAR) ADDITIONAL AVIATION AND DEPT. OF JOINT PARACHUTE FACILITIES	3700000	215500 3/	3484500	4	12-15-50	156 00
					9	3-6-51	3159 00
					7	10-2-51	369 50
251	NAS, CECIL FIELD, FLA DEVELOPMENT OF MASTER JET FIELD	8431000	215500	8646500	4	12-15-50	2530 00
					9	3-6-51	6113 35
					30	6-1-51	843 10
					4	7-25-51	637 05
252	NAS, MOFFETT FIELD, CALIF. DEVELOPMENT FOR JET OPERATIONS	9971000	—	9971000	4	12-15-50	420 00
					9	3-6-51	8012 85
					30	6-1-51	997 10
					7	10-2-51	496 05
253	CROWS LANDING, CALIF (SATELLITE #1 FOR MOFFETT FIELD AND FALLON, NEV.) ADDITIONAL AVIATION FACILITIES	2695000	—	2695000	4	12-15-50	105 00
					9	3-6-51	2185 75
					30	6-1-51	269 50
					7	10-2-51	134 75
254	MCAS, EL TORO, CALIF DEVELOPMENT TO SUPPORT JET OPERATIONS	10000000	—	10000000	4	12-15-50	300 00
					9	3-6-51	8700 00
					30	6-1-51	1000 00
					7	10-2-51	500 00

UBLIC WORKS

AND OBLIGATIONS

LEMENTAL APPROPRIATION ACT 1951

951

EQUESTED	APPORTIONMENT APPROVED		OBLIGATIONS		
mount	Amount	Date	Cumulative to 1/31/52	Major Obligation Amount	Date
50 000	150 000	12-26-50			
40 750	2140 750	4-27-51			
69 500	269 500	6-20-51		2144402	July 1951
75 865	375 865	8-15-51			
60 000	460 000	10-24-51			
	3396115		3053891		
50 000	650 000	12-26-50			
14 800	1014 800	4-27-51			
45 500	1345 500	6-20-51		4802996	July 1951
00 000 [2]	400 000 [2]	8-15-51			
74 400	674 400	10-24-51		6843438	Oct. 1951
00 000	100 000	1-29-52			
	13188000		11924822		
60 000	160 000	12-26-50			
58 700	3258 700	4-27-51		1612323	Aug 1951
25 300	28 300	9-18-51			
00 000 [3]	200 000 [3]	10-24-51			
	3747000		2054090		
56 000	156 000	12-26-50		341856	June 1951
59 000	3159 000	4-27-51		373870	Aug 1951
69 500	369 500	10-24-51		1693416	Sept 1951
	3684500		2677693		
53 000	253 000	12-26-50			
13 350	6913 350	4-27-51			
43 100	843 100	6-20-51		7691083	June 1951
37 050	637 050	8-15-51			
	8646500		8146932		
20 000	420 000	12-26-50			
12 850	8012 850	4-27-51		2275000 [3]	May 1951
97 100	997 100	6-20-51		5851427	July 1951
96 050	496 050	10-24-51			
	9971000		8956090		
05 000	105 000	12-26-50			
85 750	2185 750	4-27-51		994165	July 1951
69 500	269 500	6-20-51		433570	Aug 1951
34 750	134 750	10-24-51			
	2695000		1961995		
00 000	300 000	12-26-50			
00 000	8300 000	4-27-51			
00 000	1 000000	6-20-51		1243675	July 1951
00 000	500 000	10-24-51		5701272	Aug 1951
	10000000		7547589		

BUREAU OF YARDS AND DOCKS, PUBLIC WORKS

APPROPRIATIONS , APPORTIONMENTS AND OBLIGAT

APPROPRIATION PL 911/81st CONGRESS - SECOND SUPPLEMENTAL APPR

ENACTED 6 JANUARY 1951

Release Number	Location and Description	APPROPRIATION Appropriated by Congress	Administrative Transfers	Appropriation After Transfer	Appn. Ref.	APPORTIONMENT REQUESTED Date	Amount	A
	1/		2/		4/			
	[illegible]	[illegible]	—	[illegible]	[illegible]	12-15-50	75000	
					[illegible]	3-6-51	[illegible]	
						10-2-51	75000	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12-15-50	[illegible]	
					[illegible]	3-6-51	[illegible]	
					3a	6-1-51	[illegible]	
					[illegible]	7-25-51	[illegible]	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12-15-50	[illegible]	
					[illegible]	2-16-51	[illegible]	
					[illegible]	3-6-51	[illegible]	
					[illegible]	5-11-51	[illegible]	
					[illegible]	5-31-51	[illegible]	
	[illegible]	[illegible]	—	[illegible]	[illegible]	3-6-51	[illegible]	
					[illegible]	10-2-51	[illegible]	
	[illegible]							
		[illegible]	—	[illegible]	5	1-10-51	[illegible]	
					[illegible]	3-6-51	[illegible]	
						10-2-51	[illegible]	
	[illegible]							
		[illegible]	[illegible]	[illegible]	5	1-10-51	[illegible]	
					[illegible]	3-6-51	[illegible]	
					[illegible]	5-21-51	[illegible]	
						10-2-51	[illegible]	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12-15-50	[illegible]	
					5	1-10-51	[illegible]	
					[illegible]	3-6-51	[illegible]	
					[illegible]	6-1-51	[illegible]	
					[illegible]	8-23-51	[illegible]	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12-15-50	[illegible]	
					[illegible]	3-6-51	[illegible]	
					3a	6-1-51	[illegible]	
					[illegible]	7-25-51	[illegible]	
					[illegible]	10-2-51	[illegible]	
						12-17-51	[illegible]	

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LIGATIONS

APPROPRIATION ACT 1951

D	APPORTIONMENT APPROVED Amount	Date	OBLIGATIONS Cumulative to 1/31/52	Major Obligation Amount	Date
	75 000	12-26-50			
	400 000	4-27-51			
	25 000	10-24-51		433 935	Oct 1951
	500000		475000		
	45100	12-26-50			
	722 195	4-27-51			
	90 270	6-20-51			
	123 135	8-15-51		892500	July 1951
	780700		936230		
	1 10 000	12-26-50			
	263 456	3-16-51		783500	Feb 1951
	134 205	4-27-51		1004783	Mar 1951
	165 940	5-28-51			
	111 155	6-15-51			
	2110756		2018391		
	150 000	4-27-51		348554	Apr 1951
	150 000	10-24-51			
	1000000		571951		
	100 000	1-25-51			
	1 005 000	4-27-51			
	185 000	10-24-51		1127240	Dec 1951
	1300000		1190701		
	50 000	1-25-51			
	500 000	4-27-51			
	597 250	6-13-51		911283	June 1951
	75750	10-24-51		157467	Oct 1951
	1515000		1412230		
	318 000	12-26-50			
	1 500 000	1-25-51			
	53 450	4-27-51		7295687	Mar 1951
	1 043 700	6-20-51		1157373	June 1951
	1 079 503	9-10-51			
	10944653		10422910		
	165 000	12-26-50			
	3 379 500	4-27-51			
	417 000	6-20-51		1712581	June 1951
	703 375 00	8-15-51			
	250 737 25	10-24-51		310794	Nov 1951
	300 000	1-21-52			
	3 206 875		2944793		

(3) A nominal liquidated damage so that a contra
a large sum of money in his bid to cover this contin
If the above were adhered to, the writer feels sure
get more bids and keener competition and just as
If we can be of any further service to you, please
Very truly yours,

Apportionment of Funds Appropriated i Appropriation Act, 1951 for Nav

As indicated at page 231 of the hearings, been prepared to show the apportionment of Second Supplemental Appropriation Act fo works:

PREFATORY EXPLANATIO

The schedule shown below is a history of the fin Supplemental Appropriation Act, 1951.

The listing shows the amount justified to the C dates and amounts of apportionments of funds (af the second supplemental) which were requested fr for those projects; and the dates and amounts of Bu ments of funds.

In addition, the total obligations as of January 31 and the dates and amounts of the major obligation tional figure.

It will be noted that apportionments serially cut in advance of the enactment of the second supplem first Congress. These apportionments of funds wer advance planning of certain projects incorporate bill pending at that time. Approval was granted t this advance obligation against unobligated publi prior acts. When the Second Supplemental Appro these obligations were lodged against the pertine earlier public-works funds to the projects for whic

(The schedule referred to above faces th

Space Requirements in Army Barrac Dormitories

DEPARTM
OFFICE OF THE

Memorandum for: The Counselor, Departmen
Attention: Mr. Korth.
Subject: Space Requirements in Army Barracks

1. In response to the request of Mr. Donnelly note requested by him to explain the reasons f Army barracks in order to arrive at space requir to make them comparable to United States Air Fo

The company storage in the barracks is for l plies and is not used for storage of personal effe space is provided in Air Force buildings other tha standard Army barracks provide for a heating un whereas the Air Force projects provide for mo result is that the dormitories only require a unit vert medium-pressure steam for use in the hea amount of space required for the heating plan been required had a utility room been provided in the past required that messing and kitchen company in order that they may get the feel of they would under field conditions. As mess and

(3) A nominal liquidated damage so that a contractor does not have to include a large sum of money in his bid to cover this contingency.

If the above were adhered to, the writer feels sure that the Government would get more bids and keener competition and just as good a job.

If we can be of any further service to you, please do not hesitate to call upon us.

Very truly yours,

———— ————.

Apportionment of Funds Appropriated in Second Supplemental Appropriation Act, 1951 for Navy Public Works

As indicated at page 231 of the hearings, the following schedule has been prepared to show the apportionment of funds appropriated in the Second Supplemental Appropriation Act for 1951 for Navy public works:

PREFATORY EXPLANATION

The schedule shown below is a history of the financial progress of the Second Supplemental Appropriation Act, 1951.

The listing shows the amount justified to the Congress for each project; the dates and amounts of apportionments of funds (after they were appropriated in the second supplemental) which were requested from the Bureau of the Budget for those projects; and the dates and amounts of Bureau of the Budget apportionments of funds.

In addition, the total obligations as of January 31, 1951, are shown by projects; and the dates and amounts of the major obligations included in each total obligational figure.

It will be noted that apportionments serially numbered 1 and 4 were approved in advance of the enactment of the second supplemental, Public Law 911, Eighty-first Congress. These apportionments of funds were requested in order to permit advance planning of certain projects incorporated in the second supplemental bill pending at that time. Approval was granted by the Bureau of the Budget for this advance obligation against unobligated public-works funds appropriated by prior acts. When the Second Supplemental Appropriation Act, 1951, became law, these obligations were lodged against the pertinent projects, thus restoring the earlier public-works funds to the projects for which appropriated.

(The schedule referred to above faces this page.)

Space Requirements in Army Barracks Versus Air Force Dormitories

Department of the Army,
Office of the Chief of Engineers,
Washington, April 1, 1952.

Memorandum for: The Counselor, Department of the Army.
Attention: Mr. Korth.
Subject: Space Requirements in Army Barracks versus Air Force Dormitories.

1. In response to the request of Mr. Donnelly, there is submitted herewith a note requested by him to explain the reasons for deducting certain spaces in Army barracks in order to arrive at space requirements for housing in barracks to make them comparable to United States Air Force dormitories.

The company storage in the barracks is for the supply and issue of troop supplies and is not used for storage of personal effects. The same type of storage space is provided in Air Force buildings other than Air Force dormitories. The standard Army barracks provide for a heating plant for each individual building, whereas the Air Force projects provide for central heating of dormitories. The result is that the dormitories only require a utility room sufficient in size to convert medium-pressure steam for use in the heating system. Therefore, that amount of space required for the heating plant beyond that which would have been required had a utility room been provided is deductible. Army policy has in the past required that messing and kitchen facilities be provided for each company in order that they may get the feel of working together as a team, as they would under field conditions. As mess and kitchen space is provided in an

entirely separate building by the Air Force, this amount of space is deducted from the standard Army barracks. In line with the company integrity policy mentioned above, it has also been the policy to provide that each barracks have its own administrative and classroom space. As similar facilities are not provided in dormitories, this amount of space is also deducted. As the total of these spaces is in excess of 25 percent of the total amount of space in the building, it is considered justifiable to reduce the total area covered by the exterior walls by the proportion of this additional space to the total space in the building. For the 225–263-man barracks, the total deductible space to make the Army barracks comparable to the Air Force dormitories amounts to 41 square feet per man out of a total of 151 square feet per man.

For the Chief of Engineers:

JOHN R. HARDIN,
Brigadier General, USA,
Assistant Chief of Engineers for Military Construction.

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